

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA  
AT CHARLESTON

_____	x	
	:	
THE CITY OF HUNTINGTON,	:	Civil Action
	:	
Plaintiff,	:	No. 3:17-cv-01362
	:	
v.	:	
	:	
AMERISOURCEBERGEN DRUG	:	
CORPORATION, et al.,	:	
	:	
Defendants.	:	

_____	x	
	:	
CABELL COUNTY COMMISSION,	:	Civil Action
	:	
Plaintiff,	:	No. 3:17-cv-01665
	:	
v.	:	
	:	
AMERISOURCEBERGEN DRUG	:	
CORPORATION, et al.,	:	
	:	
Defendants.	:	

BENCH TRIAL - VOLUME 30  
BEFORE THE HONORABLE DAVID A. FABER, SENIOR STATUS JUDGE  
UNITED STATES DISTRICT COURT  
IN CHARLESTON, WEST VIRGINIA

JUNE 28, 2021

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1 PROCEEDINGS had before The Honorable David A.  
2 Faber, Senior Status Judge, United States District  
3 Court, Southern District of West Virginia, in  
4 Charleston, West Virginia, on June 28, 2021, at 9:00  
5 a.m., as follows:

6 THE COURT: Good morning, everybody. We're  
7 getting a taste of beastly Charleston summer weather  
8 today.

9 Before I start, Mr. Mahady, I went back and checked the  
10 testimony of Mr. Zerkle, I believe it was, based on your  
11 objection and you were right.

12 So what I'm going to do is I'm going to strike those  
13 portions of Mr. Colgrove's [sic] testimony, but I'm going to  
14 admit the two documents, 415271 and 413741 under 803(8). So  
15 that's how I'm going to handle that.

16 MR. MAHADY: Thank you, Your Honor.

17 THE COURT: Now, are we ready to go this morning?

18 MS. SINGER: We are, Your Honor. Plaintiffs call  
19 Dr. Caleb Alexander.

20 THE COURT: Okay.

21 THE CLERK: Please state your name.

22 THE WITNESS: George Caleb Alexander.

23 THE CLERK: Thank you.

24 **GEORGE CALEB ALEXANDER, PLAINTIFFS' WITNESS, SWORN**

25 THE CLERK: Thank you. Please take a seat.

1 THE COURT: Good morning, Dr. Alexander.

2 THE WITNESS: Good morning.

3 DIRECT EXAMINATION

4 BY MS. SINGER:

5 Q. Dr. Alexander, could you start this morning by  
6 introducing yourself to the Court?

7 A. My name is George Caleb Alexander.

8 Q. And what is your profession?

9 A. I'm a Professor of Epidemiology and Medicine, and I'm  
10 also a practicing general internist.

11 Q. And do you have a specialty within your field, your  
12 academic field?

13 A. Yes. I'm a pharmacoepidemiologist. And  
14 pharmacoepidemiologists study the use and safety and  
15 effectiveness of prescription drugs in large populations.

16 Q. And, Dr. Alexander, did you prepare a set of slides to  
17 assist in your testimony today?

18 A. Yes, I did.

19 Q. And would those slides -- do those slides also cover  
20 your background and qualifications?

21 A. Yes, they do.

22 Q. And would those slides assist in your testimony?

23 A. Yes, they would.

24 MS. SINGER: Your Honor, may we publish them?

25 THE COURT: Yes.



1 BY MS. SINGER:

2 **Q.** All right. This is Demonstrative 270.

3 Turning to Slide 2, Dr. Alexander, can you tell us  
4 about your educational background?

5 **A.** Sure. I attended university, college for two years at  
6 Oberlin College in Ohio, and then completed my training at  
7 the University of Pennsylvania.

8 I attended medical school at Case Western Reserve  
9 University in Cleveland, and subsequently completed a  
10 Master's of Science at the University of Chicago.

11 **Q.** All right. And in addition to your employment as a  
12 Professor of Epidemiology and Medicine at Johns Hopkins, do  
13 you have other affiliations or employment?

14 **A.** Yes, I do.

15 **Q.** And what are those?

16 **A.** Well, I mentioned my role as a Professor of  
17 Epidemiology and Medicine at Johns Hopkins. I'm also the  
18 founding co-director of the Johns Hopkins Center for Drug  
19 Safety and Effectiveness. And I'm Principal Investigator of  
20 the Johns Hopkins Center of Excellence in Regulatory Science  
21 and Innovation.

22 I noted that I'm a practicing general internist. And I  
23 also am owner and co-founder of a consultancy that's  
24 separate and distinct from my role at Johns Hopkins,  
25 Monument Analytics.

1       **Q.**    Dr. Alexander, are you a published author as well as a  
2       Professor and other affiliations?

3       **A.**    Yes, I am.

4       **Q.**    And did you prepare a slide -- I'm sorry. Before we  
5       get to your publications, did you prepare a slide that  
6       summarizes your licenses, affiliations, and publications?

7       **A.**    Yes, I did.

8               MS. SINGER: Your Honor, may we publish the next  
9       slide, please?

10       BY MS. SINGER:

11       **Q.**    And, Dr. Alexander, can you describe to the Court  
12       your licenses and other affiliations?

13       **A.**    Of course. I am boarded by the American Board of  
14       Internal Medicine, and also have a DEA controlled substance  
15       license.

16               I'm a former Chair and current member of the Food and  
17       Drug Administration's Peripheral and Central Nervous System  
18       Committee, and a former member of OptumRx's National  
19       Pharmacy and Therapeutics Committee.

20       **Q.**    And I prematurely asked you if you were a published  
21       author. Have you -- can you describe your, your  
22       publications generally, the number, et cetera?

23       **A.**    Of course. I've authored or co-authored more than 325  
24       scientific articles, editorials, and book chapters. I'm the  
25       current or former editor or deputy editor of nine journals.

1 And about 50 of my peer-reviewed publications have focused  
2 on the opioid epidemic.

3 **Q.** Now, are there certain publications related to opioids  
4 that you thought would be especially relevant to highlight  
5 for the Court?

6 **A.** Yes, there are.

7 **Q.** And did you prepare a slide to summarize those?

8 **A.** Yes, I did.

9 MS. SINGER: Your Honor, may we publish?

10 BY MS. SINGER:

11 **Q.** And, Dr. Alexander, does this represent that list  
12 of selected publications?

13 **A.** Yes, it does.

14 **Q.** And could you briefly walk the Court through those  
15 articles?

16 **A.** The first article was published -- the first article  
17 entitled "The Opioid Epidemic: From Evidence to Impact --"  
18 I should correct myself. This was not a peer-reviewed  
19 article but, rather, a report that was published and  
20 produced by a large number of faculty and other scientists  
21 in 2017 and focused on providing comprehensive  
22 evidence-based solutions that could be implemented to  
23 address the opioid epidemic.

24 The second is a peer-reviewed article entitled "The  
25 Prescription Opioid and Heroin Crisis: A Public Health

1 Approach to an Epidemic of Addiction." And this was  
2 published in the Annual Review of Public Health and provided  
3 a broad public health approach to understanding the harms  
4 that have occurred and how they can best be addressed.

5 The third is entitled "The Relationship Between  
6 High-Risk Patients Receiving Prescription Opioids and  
7 High-Volume Opioid Prescribers." And this provides an  
8 example of our work using large datasets to understand the  
9 epidemiology of prescription opioid use.

10 And the last entitled "The Evolving Overdose Epidemic:  
11 Synthetic Opioids and Rising Stimulant-Related Harms" was  
12 published as, again, a comprehensive review of the evidence  
13 base governing the evolving opioid epidemic and, as well,  
14 changes in the use of stimulants such as methamphetamine in  
15 the United States.

16 **Q.** And, Dr. Alexander, beyond these four publications,  
17 have you also prepared a slide that describes the general  
18 topic of some of your opioid-related articles?

19 **A.** Yes, I have.

20 MS. SINGER: And, Your Honor, may we publish that  
21 slide?

22 THE COURT: Yes, you may.

23 BY MS. SINGER:

24 **Q.** And, Dr. Alexander, can you again briefly walk the  
25 Court through some of the other general areas of

1 investigation related to opioids that you've been  
2 involved in?

3 **A.** Well, the first is a series of articles examining the  
4 epidemiology of medication assisted treatment. That is use  
5 patterns of medication assisted treatment. These are FDA  
6 approved products for the treatment of opioid addiction.

7 The second example, analyses of prescription opioid use  
8 in the United States, are a series of articles examining  
9 patterns of prescription opioid use in different sub  
10 populations, as well as nationally representative  
11 populations.

12 The last that I'll highlight are a number of papers  
13 looking at the impact of COVID-19 on the opioid epidemic, a  
14 matter of great importance to communities including Cabell  
15 County and the City of Huntington.

16 **Q.** And, Dr. Alexander, I know you referenced your use of  
17 data. But have these research and publications involved the  
18 analysis of large and complex datasets?

19 **A.** Yes, they have.

20 **Q.** And you mentioned monographs, I think you called them,  
21 that were issued by the Bloomberg School of Public Health at  
22 Johns Hopkins regarding solutions to the opioid epidemic.  
23 Can you tell the Court about those in a little more detail?

24 **A.** Of course. Well, my interest in participating in that  
25 initiative was to assemble faculty to provide for

1 communities around the country recommendations regarding  
2 steps that they could take to address the harms occurring in  
3 their communities.

4 And, so, we assembled faculty from a great number of  
5 disciplines and worked together to synthesize the evidence  
6 base and to make recommendations regarding specific steps  
7 that they could take.

8 **Q.** Now, have you also recently published an article that  
9 modeled the opioid epidemic quantitatively?

10 **A.** Yes, I have.

11 **Q.** And what is that article?

12 **A.** I, I don't know that I can quote the precise title, but  
13 it's an article reporting the results of an epidemiologic  
14 model called Apollo that allows for us to understand the  
15 complex interrelationships of different populations that  
16 have been impacted by the epidemic.

17 THE COURT: Mr. Hester.

18 MR. HESTER: Your Honor, may I object?

19 This, this paper that Dr. Alexander is referring to is  
20 one that was not on his reliance materials. It's a paper  
21 that he has written, but it was not on his reliance  
22 materials. It was not disclosed to us. He has supplemented  
23 his report twice, I believe, since he filed it in last  
24 August.

25 The paper that he's referring to was accepted for

1 publication last August. And by right, if Dr. Alexander was  
2 going to refer to it and rely upon it in his testimony, it  
3 should have been included in his report and in his reliance  
4 materials. So we object to the use of this now.

5 THE COURT: Ms. Singer.

6 MS. SINGER: Your Honor, Dr. Alexander is simply  
7 describing his qualifications and background in the area.  
8 The report which -- the article, I'm sorry, which publishes  
9 certain works he's done that is relevant is not actually  
10 going to be the topic of his direct examination. But I do  
11 think it's relevant in describing his background and  
12 experience on the precise topic that he's going to be  
13 testifying on.

14 Again, we have no intention of going into the subject  
15 of the article beyond its general subject area.

16 THE COURT: Do you still object, Mr. Hester?

17 MR. HESTER: Yes, we do, Your Honor. We think  
18 he's relying on this to bolster his opinions and it was not  
19 disclosed during -- in his expert report and it's not been  
20 disclosed to us since.

21 MS. SINGER: It was also on his disclosures  
22 yesterday, Your Honor. But, again, this is offered simply  
23 to explain to the Court his very deep and extensive  
24 experience in looking at models related to opioids.

25 THE COURT: Well, his very deep and extensive

1 experience is coming through loud and clear without  
2 reference to his report, Ms. Singer, so I'm going to sustain  
3 the objection.

4 MS. SINGER: Understood, Your Honor.

5 BY MS. SINGER:

6 **Q.** Dr. Alexander, have you testified before government  
7 bodies on topics related to the opioid epidemic?

8 **A.** Yes, I have.

9 **Q.** And in what context have you testified?

10 **A.** Well, I've testified in front of the U.S. House of  
11 Representatives, the U.S. Senate, the Food and Drug  
12 Administration, the National Academies of Science, the  
13 National Black Caucus, and the National Governors  
14 Association.

15 **Q.** And --

16 MS. SINGER: Your Honor, may I approach? I'm  
17 showing P-42132.

18 BY MS. SINGER:

19 **Q.** And, Dr. Alexander, without dwelling too much on  
20 your deep and extensive experience, can you tell us what  
21 the document in front of you is?

22 **A.** Well, this is my proposed abatement plan for Cabell  
23 County and the City of Huntington. It's my expert report.  
24 And assuming that it comes with the redress models that I  
25 think we'll get to in time, this is the product, the work



1 product that I've developed for the Court.

2 **Q.** So I think, Dr. Alexander, if you look behind the  
3 cover, it is the CV that was attached to your expert report;  
4 is that correct?

5 **A.** Yes, it is, and I apologize.

6 **Q.** It was a misleading cover page.

7 So, Dr. Alexander, does this represent the CV that was  
8 attached to your expert report?

9 **A.** Yes, I believe it does.

10 **Q.** And does that accurately reflect your background and  
11 qualifications?

12 **A.** Yes, it does.

13 **Q.** Now, you can put that aside. Have you served as an  
14 expert in other opioid litigation?

15 **A.** Yes, I have.

16 **Q.** And without going into all of them, can you provide the  
17 Court with some examples of cases and entities for which  
18 you've served as an expert related to opioids?

19 **A.** I've served as an expert for MDL Track 1 and Track 3.  
20 I've served as an expert for cases on-going in California,  
21 and for cases in the State of Washington and New  
22 Hampshire -- or, I'm sorry -- Washington and Rhode Island.

23 **Q.** Now, have you provided expert services to the  
24 pharmaceutical industry in other matters unrelated to  
25 opioids?

1       **A.**     Yes, I have.

2       **Q.**     And in what general context, Dr. Alexander?

3       **A.**     Well, I co-founded the Monument Analytics, and that's a  
4       healthcare consultancy. And our clients include  
5       pharmaceutical companies and device and diagnostic  
6       manufacturers. And I've participated in that work that is  
7       separate and distinct from my involvement in opioid  
8       litigation.

9       **Q.**     Now, has your testimony in any of the opioid-related  
10      cases you just described been excluded?

11      **A.**     No, it has not.

12      **Q.**     And have you ever testified in court before?

13      **A.**     No, I have not.

14      **Q.**     All right.

15               MS. SINGER: Your Honor, I would offer Dr.  
16      Alexander as an expert in epidemiology and opioid abatement  
17      intervention.

18               THE COURT: Any objection?

19               MR. NICHOLAS: No objection.

20               MR. HESTER: No objection, Your Honor.

21               MS. HARDIN: Your Honor, no objection to that. I  
22      will just note for the record that we obviously have a legal  
23      disagreement about the use of the word "abatement." I'm  
24      just going to lodge that as a standing objection today.

25               THE COURT: All right. I find that Dr. Alexander

1 is an expert in the field of epidemiology and opioid  
2 abatement intervention.

3 MS. SINGER: Thank you, Your Honor.

4 BY MS. SINGER:

5 Q. Now, Dr. Alexander, did you submit an expert report  
6 in this case? I think you've indicated as much.

7 A. Yes, I did.

8 Q. And what was the subject of your expert report?

9 A. Well, the focus was on identifying evidence-based  
10 programs and services that could be implemented by Cabell  
11 County and the City of Huntington, as well as to estimate  
12 the populations in need of such services and, in some  
13 instances, to identify the unit costs of specific services  
14 that could be rendered.

15 Q. And were you also asked to determine whether there is  
16 an opioid epidemic in Cabell County and the City of  
17 Huntington?

18 A. Yes, I was.

19 Q. Now, you mentioned the unit cost a moment ago. Does  
20 another expert actually calculate the total cost of the  
21 abatement plan you laid out?

22 A. Yes, that's the case.

23 Q. Now, in forming your opinions in this case, did you  
24 conduct research and analysis specific to Cabell County?

25 A. Yes, I did.

1 Q. And was the methodology you used in conducting that  
2 research and analysis consistent with well-accepted  
3 scientific standards?

4 A. Yes, I believe it was.

5 Q. And was your methodology laid out in your report?

6 A. Yes, it was.

7 Q. Now, did you analyze data as part of your research and  
8 analysis?

9 A. Yes, I did.

10 Q. And did you look at any datasets specifically related  
11 to Cabell County?

12 A. Yes, I looked at several.

13 Q. Now, did you prepare a slide that summarized some of  
14 those datasets?

15 A. Yes, I did.

16 Q. And would that slide assist in your testimony this  
17 morning?

18 A. It would. Thank you.

19 MS. SINGER: Your Honor, may I publish?

20 THE COURT: Yes.

21 MS. SINGER: Thank you. Slide 6.

22 BY MS. SINGER:

23 Q. Dr. Alexander, does Slide 6 represent a summary of  
24 some of the data you reviewed in preparing your report  
25 and developing an abatement plan for Cabell County and

1 the City of Huntington?

2 **A.** Yes, it does.

3 **Q.** And can you describe briefly the various datasets that  
4 are listed here and that you used in your report?

5 **A.** Yes. Well, the Treatment Episodes Dataset and National  
6 Survey on Drug Use and Health represent federally sponsored  
7 surveys of addiction, treatment facilities, and individuals  
8 respectively.

9 The CDC WONDER data represents information about  
10 overdoses, fatal overdoses that have occurred.

11 I used a number of data sources from the West Virginia  
12 Department of Health and Human Services, including  
13 information about emergency room overdoses, naloxone  
14 administration, EMS responses for suspected overdoses, and  
15 other information that was available on the West Virginia  
16 dashboard.

17 And, finally, I used information from the U.S. Census.

18 **Q.** Now, is each of those datasets you just described  
19 routinely relied upon by epidemiologists?

20 **A.** Yes. These datasets need to be used and fit for  
21 purpose. So -- but, yes, they are each invaluable, I would  
22 say, for epidemiologists working to understand dimensions of  
23 the opioid epidemic and, and many other matters.

24 **Q.** And are they reliable data?

25 **A.** Yes, they are. Again, reliability isn't a static

1 concept of a dataset so much as the application of a dataset  
2 in a way that is suitable for a specific scientific  
3 question. But, yes, I would say that they can be used in  
4 ways that produce reliable and helpful information.

5 **Q.** Now, beyond analyzing these and other datasets, did you  
6 and your staff take other steps to inform your opinions in  
7 this case?

8 **A.** Yes. I took many.

9 **Q.** And can you describe those for the Court generally?

10 **A.** Well, in addition to using these data, I spoke with a  
11 number of experts on the ground to understand their  
12 perspectives.

13 I reviewed reports, some issued by federal or state or  
14 local sources. I triangulated information from these  
15 sources.

16 And I also used information, of course, from an  
17 enormous volume of peer-reviewed literature, and also spoke  
18 with other experts, colleagues of mine in order to address  
19 specific questions that I thought remained open.

20 **Q.** And did you also review documents produced in this  
21 litigation and deposition testimony?

22 **A.** I did.

23 **Q.** Now, did you prepare a slide that summarized the local  
24 experts with whom you or your team spoke to inform your  
25 report?

1       **A.**     Yes, I did.

2       **Q.**     And would that slide assist your testimony?

3       **A.**     Yes.

4               MS. SINGER: Your Honor, may we publish, please?

5               THE COURT: Yes.

6       BY MS. SINGER:

7       **Q.**     Looking at Slide 7, Dr. Alexander, does this  
8 describe the local stakeholders with whom you and your  
9 team spoke in developing your report and opinion?

10      **A.**     Yes, it does.

11      **Q.**     And could you describe briefly some of those  
12 individuals?

13      **A.**     Sure. Well, you know, as, as the slide reflects, I  
14 spoke with individuals reflecting a large number of  
15 different local stakeholders, individuals from the schools,  
16 from the treatment system, from the Cabell/Huntington Health  
17 Department, the Fire Chief, and others.

18             And, so, these conversations were really important in  
19 helping me to be confident that I understand the fabric of  
20 the local community.

21      **Q.**     Now, and some of these conversations you had and some  
22 were had by your staff; is that right?

23      **A.**     Yes, that's correct.

24      **Q.**     Now, will you be opining today on the cause of the  
25 opioid epidemic in Cabell County and the City of Huntington?

1       **A.**    No, I will -- no, I will not.

2       **Q.**    And will you be opining on defendants' conduct that  
3       contributed to the opioid epidemic?

4       **A.**    No, I will not.

5       **Q.**    And will you be opining or offering views on any other  
6       entities or individuals as they relate to contributing to  
7       the opioid epidemic?

8       **A.**    No, I will not.

9       **Q.**    Okay. Let's turn to your opinions, Dr. Alexander.

10       Did you form an opinion as to whether there's currently  
11       an opioid epidemic in Cabell County and the City of  
12       Huntington?

13       **A.**    Yes, I did.

14       **Q.**    And did you rely on the sources that you described  
15       earlier in forming that opinion?

16       **A.**    Yes, I did.

17       **Q.**    And what is your opinion?

18       **A.**    I believe there is, there is abundant evidence of an  
19       on-going epidemic, an opioid epidemic.

20       **Q.**    And can you describe how you characterize that  
21       epidemic?

22       **A.**    Well, I mean, there's overwhelming evidence regarding  
23       the nature of continuing harms.

24       Historically, of course, there has been a flood of  
25       prescription opioids into the community, enough to provide



1 every adult and child 400 tablets in a year, I understand,  
2 at its peak; overdose -- rates of fatal overdose that for a  
3 community of less than 100,000 are off the charts; rates of  
4 emergency room visits for overdoses and EMS calls in the  
5 field that again are, are off the map relative to most  
6 communities in the United States; a burdened child welfare  
7 system; a school system where the school experts and  
8 authorities that I spoke with clearly identified the strains  
9 that the opioid epidemic has placed on the schools; rates of  
10 Neonatal Abstinence Syndrome that are far above most  
11 communities in the United States; umbilical cord blood  
12 samples indicating maternal opioid exposure of as high as 16  
13 or 17 percent of pregnant mothers to deliver.

14 And, so, the evidence is -- just goes on and on. But  
15 those are some of the examples.

16 **Q.** And is it your opinion that the epidemic still exists  
17 now?

18 **A.** Yes, yes.

19 **Q.** And did you prepare a slide, Dr. Alexander, that shows  
20 some examples of the kinds of evidence you just described?

21 **A.** Yes, I did.

22 **Q.** And would that slide also help your testimony?

23 **A.** Yes.

24 MS. SINGER: Your Honor, may we publish?

25 THE COURT: Yes.

1 MS. SINGER: Slide 9, please.

2 BY MS. SINGER:

3 Q. And, Dr. Alexander, is this the slide that you  
4 prepared?

5 A. Yes, it is.

6 Q. And can you describe the signs that you pulled out in  
7 this slide?

8 A. Sure. And, again, these are three of many, many  
9 indicators that I think unequivocally demonstrate the  
10 on-going harms.

11 But, for example, 137 individuals dying of overdose in  
12 2018. I estimate that approximately 7,900 individuals have  
13 opioid use disorder which is a -- if you look at the total  
14 population of the community is 8 or 9 percent of the  
15 population.

16 Again, it's hard to find communities in the United  
17 States that have this many individuals with opioid  
18 addiction.

19 The, the statistic regarding infants I've already  
20 provided regarding umbilical cord blood samples, but I think  
21 that that underscores the gravity of the situation.

22 Q. Now, is the epidemic that currently exists in  
23 Cabell/Huntington now a heroin and fentanyl epidemic?

24 A. It's an opioid epidemic. I mean, prescription opioids  
25 and heroin and fentanyl are two sides of the same coin.

1 They have the same effects on the body. They produce the  
2 same type of physical dependency and the same risks of  
3 addiction.

4 So while the community in the early stages of the  
5 epidemic was predominantly flooded with prescription opioids  
6 and while now heroin and illicit fentanyl have taken on  
7 heightened concern, I would characterize the epidemic as an  
8 opioid epidemic, not one of one particular type of opioid or  
9 another.

10 THE COURT: Let me interrupt you and ask you a  
11 question.

12 With regard to the umbilical cord statistic, is every  
13 umbilical cord, if you know, tested, every single one?

14 THE WITNESS: That's a great question. I don't  
15 know the answer for that. I would assume -- I would assume  
16 to derive the statistic that that was the case, but I don't  
17 know if that's the case.

18 THE COURT: I think that, that percentage might  
19 not be as shocking if -- depending on the number that are  
20 tested. That's why I asked the question.

21 Go ahead, please, Ms. Singer.

22 BY MS. SINGER:

23 Q. And, Dr. Alexander, did you rely on information  
24 specific to Cabell and Huntington in describing or  
25 characterizing the nature of the epidemic that exists

1 here?

2 **A.** Yes, I did.

3 **Q.** Now, have the programs that have been put in place by  
4 Cabell and Huntington resolved the epidemic that exists  
5 here?

6 **A.** No, they have not. They have been important, and I  
7 hope that I'll have an opportunity to speak to that, but  
8 they haven't resolved the epidemic.

9 **Q.** And how do you know that?

10 **A.** Well, there are any number of signs. I mean, the, the  
11 sorts of on-going morbidity and mortality that we've just  
12 discussed I think reflects that the epidemic persists to  
13 this day.

14 **Q.** Now, in your professional opinion, Dr. Alexander, are  
15 the impacts that you've just described of the opioid  
16 epidemic in Cabell and Huntington reasonably certain to  
17 continue?

18 **A.** Yes.

19 **Q.** All right. Did you also develop a plan to abate those  
20 harms associated with the opioid epidemic in Cabell and  
21 Huntington?

22 **A.** Yes, I did.

23 **Q.** And I should say, Dr. Alexander, not just the harms,  
24 but the epidemics themselves; is that correct?

25 **A.** Yes, it is.

1       **Q.**    Now, in your professional opinion, is the abatement  
2       plan you developed necessary to alleviate the opioid  
3       epidemic that exists in those communities?

4       **A.**    I believe it is necessary.

5       **Q.**    Now, does the plan address the health problems related  
6       to opioid use in addition to opioid addiction and mortality  
7       itself?

8       **A.**    Yes, it does. I mean, the plan is a multi-faceted  
9       plan, and treatment of opioid addiction is an important part  
10      of it. But the plan also includes many interventions that  
11      will help to address complications that individuals with  
12      opioid addiction may experience such as hepatitis C or HIV  
13      and, and overall to support a treatment system that can  
14      allow these individuals with opioid addiction to, to resume  
15      healthy and, and productive lives.

16      **Q.**    And, so, these other harms that you've described like  
17      hepatitis C, why are those addressed as part of your plan?

18      **A.**    Because my plan is intended to address the, the opioid  
19      epidemic. And when I examine issues such as the population  
20      with hepatitis C or HIV, I'm focusing on that subset of all  
21      people with those diseases that, that I have -- that based  
22      on my epidemiologic and professional experience I believe  
23      have them because of the opioid epidemic.

24      **Q.**    Now, can you describe the process you used to develop  
25      the abatement plan?

1     **A.**    Yes.  I used information from a number of different  
2     sources that I've already discussed.  And I, I did this  
3     iteratively.  In other words, I spoke with local experts and  
4     my team members spoke with local experts.  I reviewed a vast  
5     amount of peer-reviewed literature.

6           Of course, I began with the knowledge that I already  
7     possessed based on my professional training and experience.  
8     I reviewed monographs and white papers and reports from  
9     federal, state, and local sources.  And I, I reviewed  
10    different databases, different data sources that we've  
11    discussed.

12           And it's an iterative process.  It's not directly a  
13    linear process.  It's iterative in the sense that, that  
14    through examining these different sources of information, I  
15    was able to make estimations both regarding the types of  
16    programs and services I think are needed, and also the  
17    number, the size of the populations that I think need such  
18    services.

19    **Q.**    And, Dr. Alexander, you referred to reports that you  
20    reviewed; correct?

21    **A.**    Yes.

22    **Q.**    And did you prepare a slide that listed some of the  
23    reports you looked at in forming the abatement plan?

24    **A.**    Yes, I did.

25    **Q.**    And would that slide help your testimony?

1       **A.**     Yes, it would.

2                   MS. SINGER: Your Honor, may we publish?

3       BY MS. SINGER:

4       **Q.**     And, Dr. Alexander, this slide on Reports on  
5       Responses to the Opioid Epidemic, does this list some of  
6       the reports that you consulted in developing the  
7       abatement plan for Cabell and the City of Huntington?

8       **A.**     Yes, it does.

9       **Q.**     And can you describe generally the subject and nature  
10      of these reports?

11      **A.**     Sure. Well, the first was a report produced by  
12      President Trump's administration and led by Chris Christie.  
13      And this came out about the time of the 2017 report that I  
14      helped to co-lead at Johns Hopkins.

15               And there was remarkable alignment between the  
16      recommendations of the Christie commission and the  
17      recommendations in this Johns Hopkins report.

18               The City of Solutions and the Mayor's strategic reports  
19      and the resiliency plan, these were additional reports that  
20      were helpful in understanding, again, the perspective of the  
21      local community, of leaders from the local community that  
22      have spearheaded efforts to date, and of planning for the  
23      future and what these different parties believed was  
24      necessary in planning for the future.

25      **Q.**     And did you find any consistency between your

1 recommendations in the abatement plan and the  
2 recommendations in these reports?

3 **A.** Yes. I mean, they're highly consistent. The -- my --  
4 I used these to inform my general judgments. I didn't sort  
5 of take one of these and then add to it. But the  
6 recommendations that I make and the types of services and  
7 programs that I suggest are, are throughout all of these.

8 And the reason why is because there's clear consensus  
9 about what needs to be done. There's just -- fortunately,  
10 there's just not a lot of controversy among the public  
11 health community regarding -- and the scientific community  
12 regarding the importance of things like, like reducing the  
13 over-supply of prescription opioids, ramping up treatment,  
14 distributing naloxone, these types of programs.

15 **Q.** Now -- and before we turn to the plan itself, Dr.  
16 Alexander, do you have an opinion as to whether the opioid  
17 epidemic in Cabell and Huntington can be abated?

18 **A.** I, I do.

19 **Q.** And what is that opinion?

20 **A.** Well, I think it can. I think there's clear evidence  
21 that it can.

22 **Q.** And did you prepare any slides that, that mapped the  
23 programs that you discussed earlier looking at in Cabell and  
24 Huntington into your abatement plan?

25 **A.** Yes, I did.



1       **Q.**   And would those -- would that, would that slide assist  
2       your testimony?

3       **A.**   Yes, it would.

4               MS. SINGER:   Your Honor, may we publish Slide 10,  
5       please?

6               THE COURT:   Yes, you may.

7       BY MS. SINGER:

8       **Q.**   Dr. Alexander, does this represent some of the  
9       programs that you examined in developing your abatement  
10      plan?

11      **A.**   Yes, it does.

12      **Q.**   And can you explain to the Court what those programs  
13      are and how those mesh with the plan that you developed?

14      **A.**   Of course.   PROACT, a very important treatment program  
15      in the community sponsored by a number of organizations and  
16      allowing for ambulatory and in a small number of cases  
17      intensive outpatient treatment for individuals with opioid  
18      addiction.

19              MARC and MOMS, a vital program for women that are  
20      pregnant or postpartum that have opioid addiction.

21              The neonatal therapeutic unit and Lily's Place are  
22      programs to support the care of children with Neonatal  
23      Abstinence Syndrome both immediately after birth and  
24      subsequently.

25              The KIDS program as well is designed and geared to

1 address the needs and special needs of children that may be  
2 adversely impacted by opioid -- by the opioid epidemic.

3 The Quick Response Team is a multidisciplinary team  
4 that's equipped to get out to people that have overdosed  
5 within 72 hours of overdose, and includes a counselor or  
6 peer recovery coach, a healthcare provider, a paramedic or  
7 someone with similar training, at times a faith-based --  
8 member of a faith-based community. And this sort of team  
9 helps provide a bridge to people to get them into treatment  
10 after an overdose.

11 The Drug Court and WEAR program -- the WEAR program is  
12 a separate tract within the Drug Court for women who are  
13 commercial sex workers and who have a history of trauma.

14 The harm reduction initiatives from the community are  
15 very important as well. This includes syringe exchange and  
16 naloxone distribution, and well as fentanyl testing.

17 **Q.** And in your opinion, Dr. Alexander, are these and other  
18 current programs in Cabell and Huntington sufficient to  
19 address the opioid epidemic that exists?

20 **A.** No, they're not.

21 **Q.** And what do you base that opinion on?

22 **A.** Well, I think there's any number of lines of evidence.

23 First, the feedback that I've received from many  
24 experts on the ground;

25 Second, the fact that there historically have been wait

1 lists for some of these programs such as treatment programs;

2 Third, many of these programs, or some of them may be  
3 at or near capacity;

4 Fourth, even if there's an empty bed, there's an  
5 important need to increase demand for these programs and  
6 services.

7 So Lily's Place may have 18 slots. Maybe it should  
8 have 36 or 48 or 72.

9 The PROACT program, it's wonderful that up to 700  
10 slots, plus or minus, are available for treatment. But  
11 there's a need to significantly scale up the services and  
12 programs that are offered if the epidemic is to be  
13 successfully abated.

14 Yet, other lines of evidence include the fact that  
15 funding is unstable. And you can't do this on a  
16 month-to-month basis of not knowing whether there's going to  
17 be funding, you know, after the first of the year for a  
18 program.

19 And the last and probably the most important data point  
20 I would think for members of the community is simply the  
21 number of deaths that continue to occur and the number of  
22 people that continue to have active addiction.

23 So I don't think that there's a -- I think that it's  
24 pretty clear that the current programs, while important and  
25 while the local community deserves credit for them, that

1 they're insufficient to abate the opioid epidemic.

2 **Q.** Now, Dr. Alexander, I think the slide may preview it.  
3 But can you describe the categories of intervention that are  
4 included in the abatement plan?

5 **A.** Yes. In general, the sorts of recommendations that  
6 I've suggested fall into one of four categories:  
7 Prevention, treatment, recovery, and special populations.

8 **Q.** All right. And is that described on the slide that's  
9 now appearing on the screen, Number 11, Dr. Alexander?

10 **A.** Yes, it is.

11 **Q.** So let's start on the plan itself by focusing on I  
12 think the first circle which is -- I'm sorry -- the first  
13 circle which is the green prevention circle. Can you  
14 describe generally the kinds of programs that fit within  
15 this bucket?

16 **A.** Yes. Prevention focuses on preventing further cases of  
17 opioid addiction, as well as helping to ensure that those  
18 that have active addiction that aren't yet in treatment  
19 don't die before they get access to treatment.

20 **Q.** Now, did you prepare a slide that describes the  
21 subcategories of interventions within the prevention  
22 category?

23 **A.** Yes, I did.

24 **Q.** And would that slide assist your testimony?

25 **A.** Yes.

1 MS. SINGER: Your Honor, may we publish the next  
2 Slide 12, please?

3 BY MS. SINGER:

4 **Q.** And, Dr. Alexander, can you describe briefly the  
5 kinds of interventions that fall in each of these  
6 categories that you have determined are necessary in  
7 Cabell and Huntington?

8 **A.** Health professional education refers to special  
9 programming for healthcare providers, not just about the  
10 over-supply of opioids and about the appropriate treatment  
11 of pain, but also about the appropriate identification and  
12 management of people with opioid addiction.

13 Patient and public education is focused on ensuring  
14 that patients and the general public understand the  
15 evidence, understand the science, that they know that  
16 opioids have serious and not uncommon risks, that they know  
17 that the evidence for opioids for chronic pain is, is  
18 limited. And, so, those educational initiatives are  
19 important.

20 Safe storage and disposal is important because we know  
21 that as the volume of opioids in a community increases, as  
22 the supply in the community increases, so too does the risk  
23 of unsafe storage or failure for drug disposal. So those  
24 initiatives are important.

25 Community prevention and resiliency is important

1 because this community's fabric has been, has been torn, has  
2 been damaged, has been harmed by the opioid epidemic. And,  
3 so, community prevention and resiliency programs give the  
4 community a central gathering space, a space for educational  
5 programming.

6 Harm reduction is important because not everybody is  
7 immediately ready to enter into treatment. And the  
8 principles of harm reduction are posited on the idea of  
9 meeting people where they were at -- where they are at and  
10 ensuring that they, that they have available methods to  
11 minimize the risk of overdose.

12 And surveillance, evaluation, and leadership is  
13 important because there has to be a mission control to this  
14 plan. Surveillance and evaluation allow for iterative  
15 refinement and fine-tuning of the plan over time as the  
16 epidemic continues to evolve.

17 And leadership is important because the governance of  
18 this overall plan will be vital. And I think that the  
19 community has what it takes.

20 **Q.** And, Dr. Alexander, can we focus for a minute on the  
21 first category, the health professional education.

22 Can you describe the kinds of interventions and the  
23 doctors with whom -- to whom that education is directed?

24 **A.** Yes. Health professional education can take a number  
25 of forms, but one of the most important is targeted outreach

1 to specific prescribers.

2 So in my plan I suggest identifying prescribers that  
3 account for the highest volume of opioid prescribing and to  
4 conduct academic -- what's called academic detailing;  
5 essentially outreach to these prescribers to provide  
6 unbiased, non-commercially influenced sources of information  
7 about the optimal management of pain, as well as the  
8 identification and treatment of opioid addiction.

9 **Q.** And are there certain types of doctors or practices  
10 that in addition to the general education would be provided  
11 to particular prescribers?

12 **A.** Yes. I do think general educational programming is  
13 important, again that's not influenced and biased by  
14 commercial sources and that provides clinicians with the  
15 information they need to provide evidence-based care.

16 But I also suggest identifying a subset of doctors that  
17 may account for a disproportionate volume of opioids on the  
18 market and to target them with specific messaging.

19 **Q.** And, Dr. Alexander, have you conducted any research  
20 specific to high-volume prescribers that informed this  
21 recommendation?

22 **A.** Yes, I have.

23 **Q.** And what generally were your findings?

24 **A.** Well, my work and that of many other parties suggest  
25 that opioid prescribing is skewed or concentrated so that

1 there are a subset of doctors that prescribe a  
2 disproportionate volume of opioids on the market.

3 **Q.** Now, is there evidence that these types of  
4 interventions are effective with healthcare providers?

5 **A.** Yes, there's abundant evidence, enough so that there  
6 have been what are called systematic reviews. In other  
7 words, there have been syntheses of individual studies that  
8 provide a more comprehensive and I believe a confident  
9 appraisal than can be drawn from any single study alone.

10 **Q.** Now, in your report and abatement plan do you discuss  
11 the kinds of messages that should be delivered to healthcare  
12 providers?

13 **A.** Yes, I do.

14 **Q.** And did you prepare a slide that laid out some of those  
15 messages?

16 **A.** Yes, I did.

17 **Q.** And would that slide assist your testimony?

18 **A.** Yes.

19 MS. SINGER: Your Honor, may we publish the next  
20 slide, please?

21 BY MS. SINGER:

22 **Q.** And, Dr. Alexander, does this slide list the  
23 various messages that you think ought to be conveyed to  
24 healthcare providers?

25 **A.** This does contain many messages that I think are



1 important.

2 **Q.** And what is the source of those messages?

3 **A.** The Center for Disease Control and Prevention.

4 **Q.** And do you -- do you have the title of that as a  
5 relevant publication on this slide?

6 **A.** Yes, I do. It's the CDC Guideline for Prescribing  
7 Opioids for Chronic Pain - United States, 2016.

8 **Q.** And, Dr. Alexander, let's again focus on the first item  
9 on the list. What is the first message that you think ought  
10 to be conveyed to providers?

11 **A.** Opioids are not the first-line or routine therapy for  
12 chronic pain.

13 **Q.** And why is that a message that ought to be delivered to  
14 healthcare providers?

15 **A.** Well, it's a vital message because, again, opioids have  
16 been vastly oversupplied in the community. And one reason  
17 for this is that they've been used as first-line and as  
18 routine therapy for chronic pain in far too many settings.

19 So this is an evidence-based assertion and highlights  
20 the fact that opioids are not -- that opioids have very real  
21 and not uncommon risks. And, also, that there's not a lot  
22 of evidence to support their effectiveness for the treatment  
23 of chronic pain such as knee pain, back pain, headaches,  
24 other types of arthritis and the like.

25 **Q.** And is this a subject, meaning the, the use and

1 efficacy of opioids, on which you have published?

2 **A.** Yes, it is.

3 **Q.** And can you recall any of the studies in your report  
4 that relate to that topic in particular?

5 **A.** Well, I believe I published a review in the annuals of  
6 public health, or the annals of public health, annual  
7 reviews of public health that, that we previously described  
8 and that included an assessment of the evidence to support  
9 the use of opioids or the lack thereof.

10 MS. SINGER: Your Honor, may I approach?

11 THE COURT: Yes. We're going to have to take a  
12 break early and change out court reporters. So we'll be in  
13 recess for about 10 minutes.

14 You can step down, Doctor.

15 THE WITNESS: Thank you.

16 (Recess taken at 9:49 a.m.)

17 MS. SINGER: May I, Your Honor?

18 THE COURT: Yes, you may.

19 MS. SINGER: All right.

20 BY MS. SINGER:

21 **Q.** Dr. Alexander, before the brief recess, I had just  
22 handed you P-43586. Do you have that in front of you?

23 **A.** Yes, I do.

24 **Q.** And do you recognize that document?

25 **A.** Yes.

1 Q. And what is the document?

2 A. It's a peer-reviewed paper that I published with  
3 colleagues entitled The Prescription Opioid and Heroin  
4 Crisis: A Public Health Approach to an Epidemic of  
5 Addiction.

6 Q. And is this the study you were referring to in the  
7 moments before we took a recess?

8 A. Yes, it is.

9 Q. And where was this study published, if you didn't say  
10 that already?

11 A. In the Annual Reviews of Public Health.

12 Q. Is that a peer-review journal?

13 A. Yes, it is.

14 Q. And is the Annual of Public Health considered to be a  
15 reliable authority in your field?

16 A. Yes, it is.

17 Q. What other types of information are published in that  
18 journal?

19 A. Well, the annual reviews typically publishes articles  
20 examining looming or large public health problems. Gun  
21 violence, obesity, diabetes, other matters where public  
22 health tools and approaches have important -- have an  
23 important contribution to addressing the concern.

24 Q. And in this study that you've just referenced, did you  
25 discuss the reference regarding the use of opioids for

1 chronic pain?

2 **A.** Yes, I did.

3 **Q.** And I would like to direct you to Page 4, moving on to  
4 Page 5. Can you read what you've written there regarding  
5 the evidence for use of opioids in chronic pain?

6 **A.** Is there a slide prepared?

7 **Q.** There's not a slide. I think we can pull it up. If  
8 you look at the very bottom of the page, Dr. Alexander, the  
9 last sentence there, in fact, high quality?

10 **A.** Thank you. In fact, high quality long-term clinical  
11 studies demonstrating the safety and efficacy of OPRs, or  
12 opioid pain relievers, for chronic non-cancer pain have  
13 never been conducted. Surveys of patients with chronic  
14 non-cancer pain receiving long-term OPRs suggests that most  
15 patients continued to experience significant chronic pain  
16 and dysfunction.

17 **Q.** And why don't you go ahead and finish out that  
18 paragraph, please?

19 **A.** The CDC and some professional societies now warn  
20 clinicians to avoid prescribing OPRs for common chronic  
21 conditions.

22 **Q.** And is that what you wrote in the study that was  
23 published in the Annual of Public Health?

24 **A.** Yes, it is.

25 **Q.** And do you still agree with that statement today?

1     **A.**    Yes, I do. I mean, I believe there have been -- I'm  
2     aware of at least one, for example, trial that compared --  
3     that I believe has been published since this was -- since we  
4     published this article and it compared prescription opioids  
5     with non-opioid analgesics and found that they did similarly  
6     in managing, for example, people with knee arthritis, but I  
7     think in general, yes, I agree with this statement.

8     **Q.**    Now, Dr. Alexander, in formulating that first  
9     recommended message, if we can go back to that slide, did  
10    you consider whether there's a tradeoff between treating  
11    chronic pain and addressing addiction?

12    **A.**    I did and there is no tradeoff. I mean, one of the  
13    things that I think has -- one of the misconceptions has  
14    been that there's somehow a conflict between reducing our  
15    overreliance on opioids and improving quality of care for  
16    people that have pain. There's no conflict between these  
17    two goals. They're achievable at the very same time.

18    **Q.**    All right. Dr. Alexander, let's turn to now the second  
19    circle within the abatement plan, the prevention category.  
20    Is there evidence -- I'm sorry.

21           Before we move on to the treatment category, is there  
22    evidence that the programs that you recommend for the  
23    prevention category of the abatement plan beyond healthcare  
24    provider education that you've just discussed are affected?

25    **A.**    Yes. There's an abundant volume of evidence. There's

1 a mountain of evidence.

2 **Q.** And did you prepare a slide that provides examples of  
3 the type of evidence that supports the efficacy of these  
4 interventions?

5 **A.** Yes, I did.

6 MS. SINGER: Your Honor, may we publish that  
7 slide?

8 THE COURT: Yes.

9 MS. SINGER: Slide 14. Terrific.

10 BY MS. SINGER:

11 **Q.** Dr. Alexander, is that the slide you prepared?

12 **A.** Yes, it is.

13 **Q.** And can you describe some of the evidence supporting  
14 the prevention element of the abatement plan?

15 **A.** Well, these provide just two examples, but the First  
16 Community Prevention and Resiliency Programs, such as  
17 Communities That Care, have been shown to have a positive  
18 return on investment, \$5.30 in reduced crime and criminal  
19 justice costs saved for every dollar invested.

20 As a second example, screening for HIV and Hepatitis C  
21 enables early treatment, which can reduce transmission and  
22 help avoids complication like AIDS or Cirrhosis.

23 **Q.** All right. So now, let's move on from prevention to  
24 the next category, which is treatment. What is included in  
25 the treatment category within the abatement plan?

1     **A.**    The treatment category includes services and programs  
2     to provide direct treatment for people that have opioid  
3     addiction, as well as to treat some of the collateral or  
4     downstream harms that have occurred because of addiction  
5     such as HIV and Hepatitis C.

6     **Q.**    And did you prepare a slide that summarizes the  
7     elements of the treatment program laid out in your expert  
8     report?

9     **A.**    Yes, I did.

10    **Q.**    And would that slide assist your testimony?

11    **A.**    It would.

12                 MS. SINGER: Your Honor, may we publish the next  
13     slide?

14                 THE COURT: Yes, you may.

15                 BY MS. SINGER:

16    **Q.**    Dr. Alexander, is this the slide you prepared to lay  
17     out the elements of the treatment plan?

18    **A.**    Yes, it is.

19    **Q.**    And can you briefly describe each of those  
20     subcategories of intervention?

21    **A.**    Yes. Well, connecting individuals to care is important  
22     because there are gaps in care and you need to reach people  
23     at the point when they're most ready to enter treatment and  
24     to make it easy for them to do so. So, connecting  
25     individuals to care includes programs or services such as

1 Quick Response Teams or bridge programs that may bridge  
2 people from Emergency Departments to treatment settings.

3 Treatment for Opioid Use Disorder, I think, speaks for  
4 itself and there's an enormous need. And this is a highly  
5 treatable condition.

6 Managing complication of Opioid Use Disorder is  
7 important for the reasons that we've discussed.

8 Workforce Expansion and Resiliency is important  
9 because, as I already noted, it's not just about being sure  
10 that we can maintain Lily's Place, or Project Hope, or the  
11 PROACT program at the current levels. We need to hire up  
12 and scale up and that will require workforce expansion.

13 And taking care of the people that are working in these  
14 settings. I think that the Court has heard, and it  
15 certainly was abundantly clear to me speaking with experts  
16 on the ground, the toll that the epidemic has taken on first  
17 responders and others who are working and we need to help  
18 the helpers.

19 The last point is about naloxone distribution and  
20 training and this is vital because we know that naloxone is  
21 highly successful in reversing overdoses and giving people a  
22 second shot.

23 **Q.** And, Dr. Alexander, why do you include treatment in the  
24 abatement plan?

25 **A.** Well, treatment works. I mean, if -- and, you know,



1 treatment -- we have highly safe and effective medicines to  
2 treat opioid addiction. With treatment, we can save many  
3 lives and help people return to happy, successful,  
4 productive lives in society. Without treatment, hundreds  
5 and thousands over the years will die.

6 So, treatment isn't just the right thing to do. It's  
7 also -- makes good economic sense. We know that there's a  
8 positive return on investment when we invest in the  
9 treatment infrastructure. So, there are many reasons to --  
10 to treat Opioid Use Disorder.

11 We can also disrupt the cycle, the intergenerational  
12 cycle of addiction, if we get people into treatment and  
13 we'll disrupt and prevent the intergenerational perpetuation  
14 of addiction going forward.

15 **Q.** And can you explain what you mean by the  
16 intergenerational transmission of addiction?

17 **A.** Yes. And I recognize that that is a bit of a mouthful.  
18 And what I mean is that people that -- families that have  
19 addiction -- often, addiction is not just in one generation  
20 of the family. Parents may have addiction. There are many,  
21 many settings and cases and abundant evidence that having a  
22 parent, a household member with Substance Use Disorder, is a  
23 significant risk factor for a child to develop Substance Use  
24 Disorder.

25 So, that's -- when I say intergenerational perpetuation

1 of addiction, what I mean is that this gets passed down not  
2 invariably, but not uncommonly from grandparent to parent to  
3 child and so on.

4 **Q.** Now, I think you talked about the efficacy of addiction  
5 treatment. Do many individuals in treatment relapse or drop  
6 out?

7 **A.** Well, there is relapse from treatment, but there's  
8 relapse among individuals with major depression. People  
9 with cancer relapse. People with diabetes may be well  
10 controlled at one point and their condition may be less well  
11 controlled at another. So, relapse is an important feature  
12 of Opioid Use Disorder and it's why I suggest the programs  
13 that I do, so that we can help to minimize relapse. But  
14 relapse isn't a unique feature of this disease alone.

15 **Q.** Now, did you prepare a slide to summarize the evidence  
16 regarding the efficacy of treatment for Opioid Use Disorder?

17 **A.** Yes, I did.

18 **Q.** And would that slide help you in testifying today?

19 **A.** Yes, it would.

20 MR. SINGER: Your Honor, may we publish?

21 BY MS. SINGER:

22 **Q.** And, Dr. Alexander, this slide, Treatment Saves Lives,  
23 is that the slide you prepared to summarize the evidence  
24 regarding the efficacy of Opioid Use Disorder treatment?

25 **A.** Yes. It contains what I think is a pivotal and

1 well-done study that summarizes information from many, many  
2 other sources.

3 **Q.** And what does that study convey?

4 **A.** Well, I think the graph on the right in the slide says  
5 it all. It conveys that the likelihood of death among  
6 individuals with opioid addiction is significantly, many  
7 fold higher, if you're not in treatment than if you are in  
8 treatment. And the risk is somewhere in the middle among  
9 individuals who have discontinued treatment. So, I think  
10 that it shows the significant benefit of treatment in  
11 reducing the likelihood of people dying.

12 **Q.** And what is the difference in the death rate for people  
13 in treatment versus those who aren't in treatment or never  
14 receive treatment?

15 **A.** So, while in treatment, the death rate in this study  
16 was less than one in a hundred person-years. And among  
17 those who had never received treatment, the death rate was  
18 about five in a hundred person-years. Whereas, among those  
19 who had received treatment, the death rate fewer than two  
20 per 100 person-years.

21 **Q.** And from a public health perspective, is that a  
22 meaningful difference?

23 **A.** Massive. Massive. I mean, this -- this type of  
24 effect, if only we had this type of effect in looking at  
25 many other medicines that are approved by the US FDA that

1 may well deserve to be on the market, but that don't have  
2 nearly this -- this effect on mortality.

3 **Q.** Now, are there strategies to decrease relapse and  
4 increase retention in treatment for Opioid Use Disorder?

5 **A.** Yes, there are.

6 **Q.** And what are those strategies?

7 **A.** Well, it's important to meet people where they're at  
8 and to support them in treatment. You know, one treatment  
9 is -- often, for many individuals, there's not a  
10 one-size-fits-all approach to treatment, but for many  
11 individuals, the combination of pharmacologic treatment with  
12 FDA approved medications in combination with other  
13 supportive and wrap-around services, things like peer  
14 recovery coaches; for some people, 12-step programs as an  
15 adjunct to pharmacologic treatment. Social and psychosocial  
16 services. Supports to help people maintain stable housing.  
17 Supports to help people get vocational training so that they  
18 can have meaningful employment that adds meaning to their  
19 lives and stability and helps them to have an income and put  
20 food on the table. I discuss all of these in my plan and I  
21 think that they're all important in reducing rates of  
22 relapse.

23 **Q.** And just to single out one, Dr. Alexander, I think you  
24 mentioned pharmacological interventions. Can you describe  
25 what those are and what impact they have?

1       **A.**     Sure. Well, when I say pharmacologic interventions,  
2       I'm referring to FDA approved treatments for opioid  
3       addiction of which there are three, Buprenorphine,  
4       Methadone, and Naltrexone, and these are -- these are  
5       important, as I said, because we have an enormous amount of  
6       evidence regarding their safety and effectiveness.

7       **Q.**     And what is the evidence regarding their effectiveness?

8       **A.**     Well, we know that they can decrease risks of mortality  
9       by as much as 50 percent in some studies and that they are  
10      well tolerated. So, it's not just a function of their  
11      potential effectiveness, but also, their safety and the  
12      degree to which patients perceive that they help them with  
13      things like opioid craving.

14      **Q.**     And is there a consensus around the use of medication  
15      assisted treatment for the treatment of Opioid Use Disorder?

16      **A.**     Yes, there is.

17      **Q.**     And where is that or how is that consensus expressed?

18      **A.**     Well, I think historically for many different reasons  
19      many individuals have not had access to medication assisted  
20      treatment and historically there's been some perception that  
21      being on medication assisted treatment is simply  
22      substituting one addiction for another, but nothing could be  
23      further from the truth.

24               Individuals that are stably maintained on medication  
25      assisted treatment do not have active addiction. They're

1 not developing addiction to a medicine like Buprenorphine  
2 that's preventing them from having the cravings that they  
3 would otherwise experience.

4 **Q.** And so, what does medication assisted treatment do in  
5 helping treatment be effective and stable?

6 **A.** Well, it helps individuals. It helps to address the  
7 craving that otherwise -- that is physiologic, that is  
8 driven by changes in brain chemistry, and that otherwise is  
9 almost overpowering and that contributes to many individuals  
10 maintaining continuing use of opioids and feeding their  
11 active addiction.

12 **Q.** Now, is treatment, including medication assisted  
13 treatment, sufficiently available in Cabell County and the  
14 City of Huntington?

15 **A.** No, it is not.

16 **Q.** And are there barriers to accessing that treatment?

17 **A.** Yes, there are.

18 **Q.** What are those barriers?

19 **A.** Well, we've already -- I've already discussed  
20 historically wait lists where treatment programs that are at  
21 or near capacity, but there are also barriers because  
22 individuals that are struggling to maintain treatment also  
23 have other factors that contribute to or make it more  
24 difficult for them to participate in treatment.

25 So, I've discussed things like housing, economic

1 security, the costs of treatment, stigma that is pervasive  
2 throughout many communities.

3 MR. HESTER: Your Honor, may I object? Dr.  
4 Alexander's report does not refer to this point about  
5 waiting lists or treatment capacity in local community.  
6 There's no reference in his report to these subjects. He  
7 did not discuss the capacity for treatment in the local  
8 community. So, we believe this goes beyond the scope of  
9 what was disclosed in his expert report. We were not given  
10 an opportunity to take his deposition on these subjects.  
11 And so, we object to it.

12 THE COURT: Ms. Singer?

13 MS. SINGER: Your Honor, I disagree. Dr.  
14 Alexander talks about all of the programs that exist in this  
15 community. He talks about the nature of services, the  
16 demand for services, and was questioned extensively in two  
17 depositions in this case regarding what services are needed  
18 and how they match with resources.

19 MR. HESTER: My point is different, Your Honor,  
20 and narrower. My point is Dr. Alexander did not offer any  
21 opinion on the level of capacity or level of waiting lists,  
22 et cetera, in the community. He certainly did refer in  
23 general terms to the existence of treatment programs in the  
24 community, but on this particular point about the available  
25 capacity or whether there were waiting lists for services in

1 the community, it was not discussed.

2 And, indeed, in his deposition he was asked the  
3 question whether he had looked at the current levels of  
4 capacity in the community and he said I was not asked to  
5 qualitatively net out the current service provision within  
6 the City of Huntington and Cabell County.

7 He disclaimed providing an opinion on the current level  
8 of capacity. He did not disclose any facts relating to  
9 waiting lists or whether the current level of capacity was  
10 sufficient. He specifically said he wasn't addressing that.  
11 And he -- and he disclosed that in his deposition.

12 So, we believe this is going beyond the scope of his  
13 expert opinion and beyond what was disclosed to us. We were  
14 not given a chance to examine him on this point.

15 MR. SINGER: So, Your Honor, if I may  
16 respectfully, Paragraph 96 of Mr. -- of Dr. Alexander's  
17 report he writes adequate expansions in infrastructure are  
18 needed to increase treatment capacity to meet current  
19 demand, as well as to accommodate individuals who will be  
20 connected to care through an increasing number of  
21 initiatives.

22 He goes on to describe Project Engage. He talks about  
23 emergency department. Cabell County hospitals. He lists in  
24 his reliance materials and was specifically asked during his  
25 deposition about interviews he conducted with stakeholders.



1 He was shown a copy of those interviews.

2 THE COURT: Well, the point is, if I understand  
3 it, is whether -- is that the issue is the level of  
4 capacity; is that right?

5 MR. HESTER: Yes, Your Honor. That's the point.

6 THE COURT: And that wasn't included in his  
7 report?

8 MR. HESTER: It was not included in his report.

9 THE COURT: I'm going to sustain the objection,  
10 Ms. Singer. You can move on to your next point.

11 BY MS. SINGER:

12 **Q.** Dr. Alexander, what happens if the treatment someone  
13 needs for Opioid Use Disorder is not about -- available when  
14 that individual seeks help?

15 **A.** Well, they -- they will continue using. They will  
16 continue using opioids or any -- any way -- any way they  
17 can.

18 **Q.** And does that have an impact in terms of mortality,  
19 morbidity, and other harms that you describe in your report?

20 **A.** Yes. It has an enormous impact. I mean, I think this  
21 slide demonstrates the difference in the likelihood of death  
22 among individuals in treatment versus out of treatment. So,  
23 the risks of individuals that are not able to access  
24 treatment is enormous.

25 **Q.** Now, Dr. Alexander, did you prepare a slide that -- a

1 further slide that talks about the evidence for other  
2 aspects of your treatment plan?

3 **A.** Yes, I did.

4 **Q.** And would that slide assist your testimony?

5 **A.** Yes, it would.

6 MS. SINGER: Your Honor, may we publish?

7 BY MS. SINGER:

8 **Q.** Dr. Alexander, is this the slide you prepared laying  
9 out some of the evidence for other aspects of the treatment  
10 program?

11 **A.** Yes, it is.

12 **Q.** And can you describe what that evidence consists of?

13 **A.** Well, these are just, again, illustrative examples, but  
14 emergency department, bridge programs that I referred to  
15 that transition people from emergency department straight  
16 into treatment can double the chance that an individual with  
17 Opioid Use Disorder will receive treatment. Quick Response  
18 Teams, which I've noted previously. One in three  
19 individuals contacted by Cabell's Quick Response Team after  
20 an overdose began treatment. And naloxone, as well. A  
21 systemic review of naloxone take-home programs showed it was  
22 successful in reversing overdose in 96 percent of cases.

23 **Q.** Now, in terms of naloxone, can you describe what is  
24 needed in terms of making naloxone more available in Cabell  
25 and Huntington?

1     **A.**     Well, I suggest a number of different means to better  
2     distribute naloxone within the community ranging from  
3     ensuring that first responders continue to have it and that  
4     it's well stocked in emergency departments to providing it  
5     to family and loved ones of individuals that are at high  
6     risk of overdose, to using public lock boxes similar to  
7     defibrillators.

8             You know, if someone has a heart attack in a mall, or  
9     an airport, a movie theater, there is a defibrillator there  
10    and it should be no different in a community that's been as  
11    devastated and where overdose is as common as Cabell County.  
12    It should be no different with respect to the public  
13    availability of naloxone.

14    **Q.**     All right. Dr. Alexander, let's move from here to the  
15    third category of interventions in your abatement plan,  
16    recovery. What's included generally within the recovery  
17    area of your plan?

18    **A.**     Well, recovery includes a whole host of programs and  
19    services that aren't focused on -- directly on treating  
20    individuals with active addiction, but nevertheless will  
21    allow for those individuals to flourish and for the  
22    community as a whole to regain its former livelihood and  
23    standing that Cabell County and the City of Huntington  
24    historically have had.

25    **Q.**     And did you prepare a slide that summarized some of the

1 specific interventions that are included in the abatement  
2 plan?

3 **A.** Yes, I did.

4 **Q.** And would that slide assist your testimony?

5 **A.** Yes, it would.

6 MS. SINGER: Your Honor, may we publish?

7 BY MS. SINGER:

8 **Q.** And, Dr. Alexander, can you describe the subcategories  
9 of intervention that make up the recovery plan?

10 **A.** Public safety includes a number of different programs  
11 and services for law enforcement, such as the development of  
12 an overdose response -- I'm sorry. Such as the development  
13 of an overdose team or squad which would be able to  
14 investigate overdoses and track down the originating  
15 sources, for example, of opioids in the community.

16 Criminal justice system includes ensuring that  
17 individuals within the penal system have access to treatment  
18 and, as well, supporting programs, for example, to divert  
19 individuals from the criminal justice system into the  
20 treatment system.

21 Vocational training and job placement is very important  
22 in a place like Huntington and Cabell County because of the  
23 degree to which the economy has been decimated and the  
24 degree to which individuals with opioid addiction who are in  
25 treatment and in recovery are a great source of workforce

1 that can help the economy to recover.

2 Reengineering the workplace is important because this  
3 is not only valuable to help make the workplace more  
4 accommodating with individuals with addiction, but also, to  
5 help employers to better manage the workplace and to help  
6 local businesses to thrive.

7 And mental health counseling and grief support,  
8 unfortunately, is needed because of the ways -- the mental  
9 health impacts of the epidemic. If you consider, you know,  
10 children that have been orphaned or simply living with  
11 somebody with Substance Use Disorder, or adults that have  
12 lost loved ones, there is a lot of -- there is a lot of  
13 impact from the epidemic that requires mental health  
14 counseling and, in some cases, grief support.

15 **Q.** Now, to provide just one example, Dr. Alexander, of the  
16 programs that you lay out, can you walk us through what drug  
17 court in Cabell County does and why you include it?

18 **A.** Well, historically, many individuals that are  
19 non-violent; in some cases, first time offenders,  
20 non-felonies, with addiction have ended up in the criminal  
21 justice system.

22 Addiction treatment for these individuals offers them  
23 an opportunity to get back on their feet and to re-enter the  
24 workforce and to have meaningful jobs and return to their  
25 families and the like.

1           So, law enforcement assisted diversion -- I'm sorry.  
2           So, drug courts are a separate track within the criminal  
3           justice system that allows for individuals that may be  
4           non-violent, may be first time offenders, to get treatment  
5           instead of ending up incarcerated.

6           And there are terms and provisions to the participation  
7           and such and, I believe in Cabell County and the City of  
8           Huntington, there's also been a separate track, the WEAR  
9           program for women who are commercial sex workers, many have  
10          a history of trauma, violence. And here, too, this is a  
11          separate track within the drug court system that allows for  
12          them to get treatment for their underlying disease.

13       **Q.**   And, Dr. Alexander, is there a need, based on your  
14       research, and analysis, and report, to expand the services  
15       that drug court is able to offer?

16       **A.**   I believe that there is.

17       **Q.**   Now, can you explain, and you've touched on this  
18       briefly, why job training is part of the abatement plan?

19       **A.**   It's part of the plan in this community because this  
20       community, the local economy has been hurt, was challenged  
21       before the epidemic, and the epidemic has taken an  
22       additional toll.

23           Many individuals with opioid addiction, when they enter  
24       treatment want and are looking for gainful employment, and  
25       job vocational training and job placement allows for them to

1 get back on their feet. It allows for them to start drawing  
2 an income to put food on the table, to help support a  
3 family, and it is an important component of successful  
4 recovery.

5 **Q.** Now, is there evidence to support the efficacy of the  
6 recovery programs that you've described and lay out in your  
7 report and model?

8 **A.** Yes, there's extensive evidence.

9 **Q.** And did you prepare a slide that summarizes some of  
10 that evidence?

11 **A.** Yes, I did.

12 MS. SINGER: And, Your Honor, may we publish that  
13 slide?

14 THE COURT: Yes, you may.

15 BY MS. SINGER:

16 **Q.** Dr. Alexander, is this slide, Evidence For Recovery  
17 Programs, a slide that pulls out some of the evidence  
18 supporting the recovery programs you lay out?

19 **A.** Yes, it is.

20 **Q.** And can you describe what that evidence is?

21 **A.** Well, these are illustrative examples, but the slide  
22 depicts that 82 percent of Cabell County drug court  
23 graduates did not re-offend within 12 months. And also,  
24 that in Huntington, LEAD programs, or law enforcement  
25 assisted diversion successfully transitioned more than half

1 of individuals to treatment.

2 **Q.** And are those good outcomes from a public health  
3 perspective?

4 **A.** I think they're very positive.

5 **Q.** All right. Let's turn then, Dr. Alexander, to the  
6 fourth category of interventions in the abatement plan,  
7 special populations. Can you describe, again, at a high  
8 level what types of programs or services are included within  
9 the special population category?

10 **A.** Well, this includes programs and services whether  
11 direct treatment -- whether the direct provision of  
12 treatment or what are sometimes called wrap-around services,  
13 things such as vocational training, or psychological  
14 counseling, or the like for special populations, pregnant  
15 women, women that have newborns, individuals who, upon  
16 re-entry after a period of incarceration, children and  
17 families that have been hurt by the epidemic.

18 **Q.** Now, and did you prepare a slide, as with the other  
19 categories of the plan, that summarize the specific  
20 subcategories of programs within that plan?

21 **A.** Yes, I did.

22 **Q.** And would that assist your testimony?

23 **A.** Yes, it would.

24 MS. SINGER: Your Honor, thank you.

25 BY MS. SINGER:



1       **Q.**     And, Dr. Alexander, can you describe the abatement plan  
2     addressing special populations?

3       **A.**     Yes. Well, I've mentioned pregnant women, and new  
4     mothers, and infants already.

5             And, Your Honor, I was also able in my brief break to  
6     check and I believe that the 17-plus-or-minus percent of  
7     cord blood samples does represent of all women coming in for  
8     birth. I believe that all women are treated -- all women  
9     are screened for Substance Use Disorder and, if they test  
10    positive, then the cords, the umbilical cords, are in turn  
11    tested.

12            And so --

13            MR. HESTER: Your Honor, may we object? I mean,  
14    the witness is doing research during -- during a break and  
15    reporting back to the Court on a question. We don't think  
16    that's appropriate.

17            MR. NICHOLAS: I agree.

18            THE COURT: Sustain the objection, Ms. Singer.

19            MS. SINGER: I think Dr. Alexander was trying to  
20    be helpful to the Court, Your Honor.

21            THE COURT: I think he was, too, and it's my job  
22    to apply the rules even when it means not being real nice,  
23    so --

24            MS. SINGER: Understood.

25            BY MS. SINGER:

1       **Q.** All right. Dr. Alexander, why don't you continue down.  
2 I think you were at the first bullet, pregnant women, new  
3 mothers, and infants?

4       **A.** Of course. So, these programs and services include  
5 screening women and ensuring that pregnant women have access  
6 to treatment after birth, supporting both the mother and  
7 infant, ensuring that infants with Neonatal Abstinence  
8 Syndrome have access to the specialized services that they  
9 need to have the best shot possible.

10           There are many adolescents and young adults, far too  
11 many, that show up in emergency departments that are not in  
12 school when they should be, and so on. And so, my abatement  
13 plan includes many specialized programs to address the needs  
14 of adolescents and young adults that may have non-medical  
15 opioid use or may simply be living in a household that's  
16 been impacted by the epidemic.

17           Families and children, as well, vitally important that  
18 the abatement plan addresses. The child welfare system has  
19 been heavily taxed because of the toll that the epidemic has  
20 played in Cabell County and the City of Huntington.

21           And so, this includes services both to support children  
22 that may be living in households where there's a lot of  
23 chaos because of the ongoing addiction, as well as children,  
24 for example, that may have a history of Neonatal Abstinence  
25 Syndrome in the past and their families.

1 I've mentioned housing and housing insecurity, as well,  
2 and this is also vitally important. It's very hard for  
3 someone with addiction to get up on their feet if they -- if  
4 they are homeless, if they don't have a secure place to  
5 live, if they don't have a roof over their head, and I think  
6 that sometimes this can be taken for granted.

7 And, lastly, opioid misuse. There are many, many  
8 individuals that may not have formal addiction that are  
9 using these products non-medically. They're at elevated  
10 risk of addiction and elevated risk of overdose. And so,  
11 this is another special population of interest.

12 **Q.** Now, Dr. Alexander, did you prepare a slide that speaks  
13 specifically to the impact of the opioid epidemic on  
14 children in West Virginia?

15 **A.** Yes, I did.

16 **Q.** And would that slide assist you in testifying today?

17 **A.** Yes, it would.

18 MS. SINGER: Thank you, Your Honor.

19 BY MS. SINGER:

20 **Q.** And, Dr. Alexander, this slide, Impact on Children in  
21 West Virginia, does this summarize some of the facts that  
22 you relied upon in reaching your opinion on the  
23 interventions for special populations?

24 **A.** Yes, it does, and I think the statistics are  
25 staggering. You know, 2017, 54 of every one thousand

1 children in West Virginia were affected by the opioid  
2 epidemic. I mean, look at that compared with nationally, 28  
3 out of a thousand children.

4 In West Virginia, over half of these children are  
5 residing in a household without a parent. I'm sorry. In  
6 West Virginia, over half of these children resided in a  
7 household with a parent that had opioid addiction.

8 Nearly one in five lost a parent due to death or  
9 incarceration. One in five were removed from their home for  
10 foster or kinship care.

11 Of the 22,000 total children affected, it's estimated  
12 that 1,500 either developed opioid addiction as an  
13 adolescent or accidentally ingested opioids as a child.

14 And this last statistic is one that's based on my  
15 discussion with local experts. Up to half of children in  
16 Cabell public schools are being raised by someone other than  
17 a parent. I think that these statistics suggest the gravity  
18 of the epidemic on children.

19 **Q.** And, Dr. Alexander, are these kinds of statistics  
20 different than what you have observed nationally or in other  
21 jurisdictions?

22 **A.** They're strikingly different. Again, in just about  
23 every metric it's hard to find a place in the United States  
24 that's been impacted as heavily as Cabell County and the  
25 City of Huntington.

1     **Q.**   All right.  So, in terms of programs for children, Dr.  
2     Alexander, can you speak in greater detail about the kinds  
3     of interventions that are needed for teens and adolescents,  
4     to just pull out one example?

5     **A.**   Sure.  Well, my discussion with experts from the local  
6     school system underscored just how challenged the school  
7     system is in managing individuals, adolescents and teens,  
8     that may be living in households.  They may not be living  
9     with their parents.  They may be living in households that  
10    are -- have a high degree of dysfunction and where there's  
11    active addiction.

12           So, the sorts of programs and services include  
13    increasing the volume of social workers and other  
14    specialized experts within the school system so that there's  
15    a stable and consistent workforce that's able to intervene  
16    with these children to advocate on their behalf and, as  
17    well, to screen them for their own risk of opioid  
18    non-medical use or addiction.  And then, to help ensure that  
19    they have access to the same high quality treatment that  
20    everybody should have access to in the community.

21   **Q.**   Now, Dr. Alexander, as with the other programs that you  
22    lay out, is there evidence that this -- these interventions  
23    for women, newborns, teens, adolescents, having secured all  
24    of the other categories, are effective?

25   **A.**   Yes.  Again, I suppose you might call it one of the

1 silver linings of the epidemic, but -- a bit large  
2 nationally -- but there has been an immense body of evidence  
3 developed evaluating different abatement remedies and  
4 there's not exactly the same amount of evidence for one  
5 remedy versus another, but the interventions that I propose  
6 in my abatement plan are well supported by the scientific  
7 and public health evidence.

8 **Q.** And specifically, with respect to special populations,  
9 did you prepare a slide that laid out or summarized the  
10 efficacy of those interventions?

11 **A.** Yes, I did.

12 **Q.** And would that slide assist you?

13 **A.** Yes, it would.

14 MS. SINGER: Your Honor, may we publish?

15 BY MS. SINGER:

16 **Q.** And, Dr. Alexander, does this slide pull out a couple  
17 of examples of the evidence that these kinds of  
18 interventions work?

19 **A.** Yes. This slide just depicts or, you know, provides  
20 illustrative examples again, but one focused on maintaining  
21 family relationships and the importance of that and  
22 improving the health and socio emotional outcomes for women  
23 and children.

24 And the second from the West Virginia Perinatal  
25 Partnership is focused on early -- on pregnant women or

1 newborns and their mothers, the Drug Free Moms and Babies  
2 Project, which is an effective universal screening program  
3 which has reduced drug use among at risk and medically  
4 underserved women.

5 **Q.** Now, is it -- and we can put this slide away. Is it  
6 your professional opinion that the program, that each of the  
7 programs that you described, will reduce the harms from the  
8 opioid epidemic in Cabell County and the City of Huntington?

9 **A.** Yes, it is.

10 **Q.** And I think you've alluded to this earlier, but have  
11 the programs you describe and lay out in your plan been  
12 proven to be effective in other jurisdictions?

13 **A.** Yes, they have.

14 **Q.** All right. Let's move on from the elements of the  
15 plan, Dr. Alexander, to the costs. Did you prepare  
16 calculations that reflect the population and needs to be  
17 served by the various programs included in the abatement  
18 plan for Cabell County and the City of Huntington?

19 **A.** Yes, I did.

20 **Q.** And did you derive cost estimates for the units of  
21 those programs and population?

22 **A.** Yes, I did.

23 **Q.** Now, do you -- do you total those cost numbers  
24 yourself?

25 **A.** No, I do not.

1 Q. And do you know who did?

2 A. I believe that was performed by George Barrett.

3 Q. Now, how did you arrive at the cost numbers that are  
4 associated with the abatement plan?

5 A. I used a process similar to the process that I use in  
6 looking at epidemiologic estimates; that is, I carefully  
7 examined the both peer-reviewed and non-peer-reviewed  
8 reports. I spoke with local experts. I reviewed documents  
9 that may have been produced by defendants or plaintiffs.

10 And I spoke with local experts, colleagues of mine. In  
11 addition to local experts, I spoke with colleagues of mine,  
12 professional colleagues, and used an iterative approach.  
13 So, it's really the same approach as I use in all of the  
14 work that I do.

15 Q. And did you also rely, in addition to review of the  
16 literature and the conversations you've described, did you  
17 rely on any data sources?

18 A. Yes, I did.

19 Q. And were those data sources national, state or local?

20 A. Well, I -- I mean, when I approach these sorts of  
21 scientific questions, I have an open mind about which data  
22 sources may be best. And I may have reviewed national,  
23 state and local data but, in general, holding all else  
24 constant, I try to use local sources because those best  
25 reflect the situation on the ground and they're most --



1 they're most germane to the matter at hand.

2 **Q.** And did you sometimes turn to national or state sources  
3 of data, as well?

4 **A.** I did. You know, unfortunately, all else is not always  
5 equal. In other words, there are times where national or  
6 state sources, I felt, were preferable sources to use.

7 **Q.** Now, I would like to show you what has been marked as  
8 P-41907.

9 MS. SINGER: Your Honor, may I approach the  
10 witness?

11 BY MS. SINGER:

12 **Q.** Dr. Alexander, while we're distributing these, why  
13 don't you take a look and see if you can identify the binder  
14 of documents we've put in front of you?

15 **A.** Yes, I can.

16 **Q.** And what is that set of documents?

17 **A.** It represents the populations that I estimated were in  
18 need of given services, as well as, in some instances, the  
19 unit costs of those services.

20 **Q.** And is that sometimes described in your report as the  
21 redress model?

22 **A.** Yes, it is.

23 **Q.** And does this set of documents represent your analysis  
24 of the elements and costs of the abatement plan for Cabell  
25 County and the City of Huntington?

1       **A.**    Yes, it does.

2       **Q.**    Does it cover every program within the abatement plan?

3       **A.**    I -- yes, I believe that it does. I mean, there are  
4       not necessarily population estimates for every -- for every  
5       remedy, but it does cover the universe of programs that I --  
6       that I suggest.

7       **Q.**    And where there aren't population estimates provided,  
8       why is that?

9       **A.**    Because they were -- in some cases the need for those  
10      services is subsumed in other categories.

11      **Q.**    And, Dr. Alexander, does the worksheet itself also lay  
12      out the specific data sources you relied on for your -- your  
13      figures?

14      **A.**    Yes. I've attempted to provide detailed documentation  
15      regarding the sources of information that I relied upon.

16      **Q.**    And if you turn to the very first document, do you see  
17      a document that lays out the abatement categories?

18      **A.**    Yes.

19      **Q.**    And does this tab of your spreadsheet list each of the  
20      program areas for which you prepared analyses?

21      **A.**    Yes.

22      **Q.**    With the Court's permission, I would like to direct you  
23      to Tab 2-E. And let's use this as an example, Dr.

24      Alexander. Can you describe what the worksheet under Tab  
25      2-E represents?

1     **A.**     Yes. The rows represent different categories of  
2     naloxone distribution. I referred to this previously and  
3     you can see, for example, first responder training and  
4     naloxone for first responders. Naloxone for emergency  
5     departments. Naloxone for high risk patients. And naloxone  
6     for public lockboxes. The columns represent the years from  
7     2021 through 2035.

8             Within the cells, what I've done is I've populated  
9     specific populations that I estimate require each -- you  
10    know, specific populations relevant to each category.

11            So, for example, just taking the first top left cell,  
12    the number 643, that represents my estimate of the number of  
13    first responders in Cabell County that should receive  
14    naloxone training.

15            The final two comments I'll make about this document,  
16    lower in the document under the notes section, I provide a  
17    detailed explanation of the source of information that I  
18    used for any given row.

19            So for example, the number that we saw, 643, represents  
20    what I call Row 1 in brackets and I provide a source for  
21    which I derived that information. In this instance, it was  
22    derived from a different tab which focused on estimating the  
23    workforce.

24            The last thing to emphasize is I'd like to be able to  
25    identify the Excel row. If you scroll up slightly, please,

1 it's Excel Row 29, the Intervention Population Trend Ratio.  
2 So, this is important. And this represents a scaling down  
3 of this service over 15 years because of what I believe can  
4 be achieved in abating the opioid epidemic over 15 years.

5 And so, essentially, this -- this applies a trend down  
6 to 0.5 in the final year. And the way to interpret that is  
7 by that 2035, I estimate that we can reduce overdoses in the  
8 community and the need for naloxone by 50 percent. And so,  
9 essentially, this is a program that is scaled down over the  
10 course of 15 years and that trend ratio represents that  
11 scaling.

12 **Q.** Now, Dr. Alexander, did you prepare a similar analysis,  
13 as you're previously qualified it, for the various  
14 interventions that are included in your abatement plan?

15 **A.** Yes, I did.

16 **Q.** And in preparing this analysis, did you rely on data  
17 that is typical of the types of data relied on by  
18 epidemiologists and experts in opioid abatement?

19 **A.** Yes, I did.

20 **Q.** And does your analysis in this set of worksheets  
21 reflect, to a reasonable professional certainty, the needs  
22 and unit costs for services in the abatement plan?

23 **A.** Yes, it does.

24 MS. SINGER: Your Honor, I would move to admit  
25 P-41907.

1 THE COURT: Any objection?

2 MR. NICHOLAS: Yes, Your Honor.

3 THE COURT: Start with you, Mr. Nicholas.

4 MR. NICHOLAS: Thank you. I would object to this  
5 document. This document -- these are work papers that were  
6 attached to or that were a part of Dr. Alexander's expert  
7 report. I believe what's being offered into evidence here  
8 is a portion of his report. That's hearsay. It contains  
9 hearsay because it -- you know, it has sourcing that Dr.  
10 Alexander himself referred to.

11 So, I think this is an attempt to basically put in, you  
12 know, a large portion of Dr. Alexander's expert report. We  
13 -- I didn't object to his talking about -- about it and he  
14 can reference it and even put -- you know, put it up for  
15 demonstrative purposes, but I think this is hearsay, so I  
16 don't think it should come in.

17 MR. HESTER: We would join in that, Your Honor.  
18 It is a part of his expert report and it should not be  
19 admitted as evidence.

20 THE COURT: Ms. Hardin?

21 MS. HARDIN: Same, Your Honor.

22 MS. SINGER: So, Your Honor, respectfully again,  
23 the fact that this is an appendix to Dr. Alexander's expert  
24 report is not dispositive as to whether it's hearsay.

25 Dr. Alexander, as you know, is qualified as an expert.

1 This chart contains not only his work product, but his  
2 analysis and represents actually his opinions as he  
3 described at the outset of his testimony.

4 He has personal knowledge of these charts and he's  
5 testified to how he prepared them and the reliability of the  
6 underlying data. Thus, he's laid the groundwork both for  
7 the authenticity and the foundation of the document.

8 He could testify to each cell in the chart. I think  
9 we'd have a very long day ahead of us. And under both FRE  
10 703 and Rule 611(a)(2), which authorizes the Court to  
11 receive this document into evidence to avoid wasting time, I  
12 would submit that it is admissible.

13 THE COURT: Ms. Hardin?

14 MS. HARDIN: What Ms. Singer has just described is  
15 every expert report. That's what an expert report contains,  
16 is opinions, analysis and the sources that they rely on.  
17 There is nothing different about this than any other expert  
18 report and it's very clear that expert reports are not  
19 competent evidence and should not come in.

20 And I don't think 611 -- I mean, this is their  
21 abatement plan and they want an enormous amount of money  
22 based on what's written here. So, they've got to do more  
23 than introduce an expert report. So, nothing Ms. Singer has  
24 said takes this out of the realm of any other expert report  
25 and hearsay and it's inadmissible and shouldn't come in.

1 MR. NICHOLAS: I mean, the witness described this  
2 document in part as his work papers. He was questioned  
3 about these as the working papers that were used to prepare  
4 his report.

5 If I remember correctly, one of the documents we -- one  
6 of the visuals that we saw here showed that it was work that  
7 was done by the witness's separately owned data company that  
8 -- whatever it is, the data analysis company called  
9 Monument.

10 And so, this is all simply -- number one, it's the work  
11 that was done in support of the report. And, number two,  
12 it's a portion of the report itself.

13 MS. SINGER: Your Honor, these are Dr. Alexander's  
14 opinions for which he has laid the foundation that lays out  
15 the elements and associated costs and, therefore, again, you  
16 know, as with other types of evidence that you have  
17 received.

18 MR. NICHOLAS: Well, if I may, this -- this  
19 document is an example of something that looks nothing like  
20 opinions. This looks like data.

21 And he can testify about opinions, he can, and that's  
22 what -- you know, that's fine, but this documentation, this  
23 extensive documentation, is not that.

24 THE COURT: What about the argument Ms. Singer  
25 made, if I understood correctly, that this will assist the

1 Court by saving a huge amount of time, it seems to me, if he  
2 has to go through all of these things in the report and  
3 explain them if the report doesn't come in? Couldn't I  
4 admit it just as a matter of efficiency to shortcut this?

5 MR. NICHOLAS: That's such a hard question to  
6 answer because -- because that is the most persuasive thing  
7 that Ms. Singer said, I agree. I just don't think it's --  
8 you know, it's a workaround. It's a -- it's -- it goes  
9 beyond sort of a shortcut. It's too big of a deal. I mean,  
10 there's a tremendous amount of information in here, data,  
11 you know, work that's -- work that's been done.

12 I mean, this is all the -- this is all -- what the  
13 witness is saying is support -- is his work product. So, I  
14 admit that that was the most appealing thing that Ms. Singer  
15 said.

16 THE COURT: Certainly appealing to me, Mr.  
17 Nicholas.

18 MR. NICHOLAS: And it is or isn't? It is or is  
19 not?

20 THE COURT: I'm sorry.

21 MS. HARDIN: Well, I was going to say, it is a  
22 shortcut, Your Honor. I mean, we could say that about lots  
23 of -- lots of pieces of documentation, that it might  
24 shortcut things, that it might be easier. That doesn't make  
25 it proper.



1           And what I keep hearing being said is that these are  
2           Dr. Alexander's opinions. And that's what every expert  
3           report contains and the expert reports are not admissible.

4           MS. SINGER: So, Your Honor, again, to be clear,  
5           we are not seeking to enter into evidence Dr. Alexander's  
6           entire expert report and there's precedent for this. I  
7           would direct the Court to *State Office Systems, Inc. v.*  
8           *Olivetti Corporation of America*, a Tenth Circuit opinion,  
9           which found that interpretations of data and projections are  
10          admissible as opinion testimony, I think, for just the  
11          reasons that have been laid out to Your Honor.

12          THE COURT: Yes, ma'am, please?

13          MS. HARDIN: Again, if he would like to offer some  
14          opinion testimony from the stand, we don't object to that,  
15          but the wholesale introduction of this document is improper.  
16          And I think the Fourth Circuit has said that Rule 611  
17          demonstratives cannot be submitted as evidence, which I  
18          think outweighs whatever the Tenth Circuit has had to say  
19          about this.

20          THE COURT: Mr. Hester?

21          MR. HESTER: Your Honor, just one further thought.  
22          Insofar as the point is being made that it would save time  
23          for the Court, we submit that the proper approach would be  
24          for the witness to provide some sort of a summary of his  
25          analysis, not to put in his opinions wholesale.

1 I mean, this is a critical element of his expert  
2 report. If he was -- if he wants to provide the Court with  
3 a summary there are certainly ways to do that under the  
4 Rules of Evidence, but we don't think the approach is dump  
5 in the whole report into evidence. That doesn't seem  
6 appropriate to us.

7 MS. SINGER: So, Your --

8 THE COURT: Well -- I'm sorry. Go ahead.

9 MS. SINGER: I'm sorry, Your Honor. I certainly  
10 don't mean to interrupt you.

11 These are not 1006s. It is not a summary of voluminous  
12 data. It is actually the analysis that was conducted by Dr.  
13 Alexander. And, again, I think the precedent on this  
14 indicates that it is admissible on that basis.

15 I would also note -- excuse me -- that these documents  
16 were provided to defendants with all of the detail that Dr.  
17 Alexander has described, the notes, the cells, the formulas,  
18 the sources, all of those things, and they have had full  
19 opportunity to examine it and will no doubt have full time  
20 to cross examine him.

21 THE COURT: Well, let's take a short break.  
22 Somewhere in this mass of paper is my book containing the  
23 Rules of Evidence and I want to look at that.

24 So, let's be in -- take a very short recess.

25 MS. SINGER: Your Honor, I fear for looking at all

1 of those papers, it may be more than a short break.

2 (Recess taken)

3 THE COURT: I'm going to provisionally admit  
4 Exhibit 41907 on the theory that it's helpful to the Court  
5 and it's within the Court's discretion to direct the order  
6 of evidence and with considerations of simplifying things  
7 and saving time. This will help me to understand the  
8 evidence. We don't have to worry about confusing a jury.

9 I read your Tenth Circuit case, Ms. Singer, and I'm not  
10 sure it exactly gets you there, but if you want to rely on  
11 that and go forward on this basis, we'll do it, and if I  
12 ultimately decide that I can't let it in, then you're taking  
13 a chance here and -- but so am I -- and I think the  
14 witness's testimony would be extremely difficult for me to  
15 follow and understand without the helpfulness of this  
16 exhibit.

17 MR. HESTER: Your Honor --

18 THE COURT: So, Mr. Hester, do you -- go ahead,  
19 sir.

20 MR. HESTER: Could we have an opportunity to brief  
21 this point? It's an important point to us.

22 THE COURT: Well, can we -- can we go ahead  
23 provisionally?

24 MR. HESTER: Yes. Yes.

25 THE COURT: And I would be -- I'd be delighted

1 with some help in the form of a brief.

2 MR. HESTER: But we understand the Court's point  
3 that let's -- we can go ahead provisionally, but we would  
4 like an opportunity to brief this point.

5 THE COURT: All right. That would be helpful to  
6 me and let's -- let's have the witness return to the stand.

7 MS. SINGER: Yes, Your Honor.

8 THE COURT: Dr. Alexander.

9 MS. SINGER: Bear with me one moment, Your Honor.

10 (Pause)

11 THE COURT: If this were a jury trial, there would  
12 be a lot greater danger in going forward the way we are now,  
13 but I don't see the -- I think a possibility of unfair  
14 prejudice is minimized, but I'll conditionally admit it and  
15 then consider what you want to submit. And I'll let you go  
16 ahead.

17 MS. SINGER: Your Honor, just one further note on  
18 this, and I don't want to belabor the point, particularly  
19 since we've landed in a good place for purposes of this  
20 testimony, but Mr. Barrett will be testifying relying on  
21 these calculations and data. And so, I actually think, in  
22 these circumstances, this provides defendants with an  
23 opportunity to fully cross examine the witness who prepared  
24 these calculations and I think that only enhances the  
25 fairness of the process, but I recognize that the issue will

1 be briefed to the Court.

2 MR. HESTER: Well, Your Honor, we're actually  
3 placed in a quandary in the other direction by this because,  
4 in our view, this is not evidence. This is a part -- a  
5 fundamental part of his expert report that's being put in  
6 provisionally this way.

7 Mr. Barrett is coming tomorrow and we're in a posture  
8 of needing to know whether or not Mr. Barrett can properly  
9 rely on this as evidence, whether materials not presented to  
10 the Court during Dr. Alexander's testimony can be relied on  
11 by Dr. Barrett for his calculations, and it puts us in a  
12 very difficult spot.

13 THE COURT: Well, I think that's a chance you're  
14 taking, Ms. Singer.

15 MR. ACKERMAN: If I may, Your Honor, just to  
16 address that point, Rule 703 does not require that an expert  
17 rely on materials that are actually in evidence. Experts  
18 can rely on inadmissible materials, as well. So, I don't  
19 necessarily think it's as much of a quandary as Mr. Hester  
20 states.

21 THE COURT: Well, that coincides with the  
22 principle we all acknowledge that an expert's report  
23 contains hearsay and the report itself can't come in, does  
24 it not?

25 MS. SINGER: So, again, Your Honor, we've heard

1 the ruling and I don't want to belabor the point with the  
2 witness and time ticking. I understand that the Court will  
3 take briefing on this issue. I think Dr. Alexander's  
4 testimony establishes that the calculations themselves are  
5 reliable and, therefore, would satisfy Rule 703 for another  
6 expert's reliance, but we do understand the issue that the  
7 Court has framed for us.

8 MR. HESTER: Your Honor, if we could, given the  
9 importance to Mr. Barrett's testimony tomorrow, could we  
10 suggest simultaneous briefing by end of the day today?

11 MR. ACKERMAN: Your Honor, we are preparing  
12 witnesses. We've got one witness on the stand. We cannot  
13 agree to simultaneous briefing by the end of the day today.  
14 That's --

15 There are a number of documents in this case that the  
16 Court has conditionally admitted or taken under  
17 consideration. We understand that. But in terms of timing,  
18 I cannot commit some of my colleagues who are not in court  
19 right now to abandon what they're doing in terms of  
20 preparing another witness in order to brief an issue like  
21 this on this type of short notice.

22 MR. HESTER: I think we all have pretty large  
23 teams here, Your Honor. I think this is a pretty  
24 straightforward evidentiary point that could be reached by  
25 the end of the day.

1 THE COURT: Surely you've got somebody that can  
2 work on this and do it.

3 MR. ACKERMAN: I --

4 MS. KEARSE: I'll get right to it, Your Honor.

5 MR. FARRELL: Judge, on behalf of Cabell County,  
6 trying not to triple team the Court, we don't see this as  
7 any different than what we did earlier in the trial where we  
8 took the data from Dr. McCann and had Mr. Rafalski rely on  
9 the data. So, this is a -- a foundational issue upon which  
10 we're building a case.

11 So, the question becomes if these data points need to  
12 be read into the record line by line by line by line, row by  
13 row by row for data points for Mr. Barrett to testify about,  
14 I don't think that's envisioned by the rules.

15 The rules require us to establish a foundation for the  
16 trier of fact to believe whether or not these numbers are  
17 reliable, evidence based, and trustworthy. You then put  
18 weight on whether or not that these numbers can be relied  
19 upon.

20 Tomorrow, Mr. Barrett will do likewise. He will take  
21 that underlying proposition and place an economic value on  
22 it. This is not a house of cards where you pull one card  
23 and the entire thing falls down.

24 We've spent most of the morning laying the foundation.  
25 If the defendants do not want this in the record then,

1 respectfully, I see it the other way. I see it in terms of  
2 if they don't want it in the record, then Mr. Barrett is  
3 allowed to rely upon it under Rule 703 and the defendants  
4 then lose the opportunity on appeal to challenge the  
5 underlying evidentiary value to it. So, this is a catch-22  
6 for the defendants, not the plaintiffs, Your Honor.

7 MR. HESTER: My question was only a narrow one,  
8 Your Honor, whether we can have simultaneous briefing by the  
9 end of the day.

10 THE COURT: Mr. Farrell, can your side do a brief  
11 for me on this issue by the end of the day?

12 MR. FARRELL: Of course, Your Honor.

13 THE COURT: All right. I'm going to order  
14 simultaneous -- I hate to do this to lawyers because I know  
15 you're under all this pressure and everything, but -- and I  
16 had it done to me when I was practicing and it was awful.

17 MR. ACKERMAN: One quick question, Your Honor.  
18 When does the day end in the Court's mind?

19 MR. HESTER: Could we say 6:00, Your Honor?

20 THE COURT: Yes, 6:00 p.m.

21 MR. ACKERMAN: Okay.

22 THE COURT: Submit by 6:00 p.m. whatever you can  
23 and it doesn't have to be a -- your normal excellent  
24 workmanship. I just want the cases, and the principles, and  
25 your interpretation of them.



1           And we'll go forward on the basis of that resolution,  
2           Ms. Singer, and I think the ice is pretty thin here, but  
3           let's go.

4                   MR. FARRELL: All right. I wish I could say it  
5           was the first time, Your Honor, but I think Dr. Alexander  
6           will help us rebuild our ice.

7                   BY MS. SINGER:

8           **Q.** All right. Dr. Alexander, when we broke, we were  
9           talking about the calculations that underpin the redress  
10          model and you had gone through the tab relating to naloxone.  
11          So, let's turn to the tab that relates to OUD treatment.  
12          I believe that's 2-B, Shakespearianly.

13                  Dr. Alexander, can you turn to 2-B? Does this  
14          represent your calculations and analysis with respect to the  
15          provision of addiction treatment services?

16          **A.** Yes, it does.

17          **Q.** All right. I'd like to start by asking you to explain  
18          to the Court whether you provide an estimate for how many  
19          people would receive treatment in the first year of the  
20          abatement plan?

21          **A.** Yes, I do.

22          **Q.** And where is that number and what is that number?

23          **A.** Well, the number is 3,153 and that's represented in  
24          Cell D12.

25          **Q.** And how did you arrive at that number?

1       **A.**     Well, first, I used an estimate of the total population  
2       in the community that's estimated to have opioid addiction.  
3       Then, I reduced that population modestly based on applying  
4       the trend ratio that I've already described previously. In  
5       this instance, that's depicted on Row 31.

6             And then, of individuals that I estimate have active  
7       OUD, or active addiction in the community, I estimated that  
8       40 percent be targeted for treatment in the first year of  
9       the plan.

10       **Q.**     And why did you start with a 40 percent estimate of how  
11       many people would be treated?

12       **A.**     Because I think 40 percent is an achievable and  
13       meaningful number and it is supported by evidence suggesting  
14       nationally that somewhere between 20 and 30 percent of  
15       individuals are -- get some sort of treatment in a prior --  
16       in the prior year. And it also is informed by  
17       recommendations from the World Health Organization.

18       **Q.**     And does your plan include interventions that are  
19       designed to increase the takeup rate of treatment that would  
20       allow the plan to achieve the 40 percent treatment level?

21       **A.**     Yes, it does.

22       **Q.**     Now, will the --

23             THE COURT: Let me interrupt you for a minute.

24       The way you're proceeding, it occurs to me that I could not  
25       admit this, but consider it as a demonstrative to illustrate

1 the testimony he's giving. Am I out in left field on that?

2 Ms SINGER: I don't believe you're out in left  
3 field, Your Honor, but I would -- I would be more  
4 comfortable answering this at 6:00 tonight.

5 THE COURT: Okay.

6 MR. HESTER: I mean, Your Honor, we would agree  
7 it's a demonstrative in aid of his testimony. It's just not  
8 evidence. We don't see it as evidence given that it was the  
9 critical part of his report.

10 THE COURT: Ms. Hardin?

11 MS. HARDIN: Agreed, Your Honor. So, any portions  
12 not testified about, therefore, would not be evidence and  
13 couldn't be considered by the Court.

14 MR. ACKERMAN: So, the issue we have, Your Honor,  
15 and this will obviously be briefed --

16 THE COURT: All right. Well, I will wait for the  
17 briefs, but the evidence -- certainly, his testimony is  
18 evidence, right?

19 MR. ACKERMAN: Yes, Your Honor, and that's the  
20 issue we have, that even under *U. S. v. Genetti*, the Court  
21 said that if the bench doesn't allow summary charts, then  
22 the government had to be afforded the opportunity to prove  
23 its case the long way.

24 MS. SINGER: And the long way is a binder full.

25 THE COURT: All right. Go ahead.

1 BY MS. SINGER:

2 **Q.** All right. Dr. Alexander, so I think I was just asking  
3 you whether the proportion of individuals in treatment  
4 remains constant over the term of the abatement plan?

5 **A.** No. I believe that we can ramp up treatment over the  
6 15 years. And so, while there's a decrease over time in the  
7 total number of people with addiction because the abatement  
8 plan will reduce the total population with addiction, I  
9 suggest increasing the proportion of those people that are  
10 accessing treatment over the 15 years from 40 percent of  
11 people in Year 1 to 60 percent of people with Opioid Use  
12 Disorder in Year 15.

13 **Q.** And in your professional opinion, is that increase in  
14 the proportion of individuals in treatment reasonable and  
15 consistent with sound -- sound methodology for epidemiology?

16 **A.** Well, it's informed by my knowledge of abatement  
17 programs and the treatment infrastructure both locally in  
18 Cabell County and, as well as around the country, and I  
19 believe that, again, I believe that these sorts of treatment  
20 levels are both achievable and meaningful.

21 **Q.** Now, are all of the individuals being treated for  
22 addiction in this abatement plan laid out here receiving the  
23 same level of care, Dr. Alexander?

24 **A.** No. No. There's not a one-size-fits-all and some  
25 individuals require intensive, much more intensive care than

1 others. So, I suggest that individuals that -- that the  
2 treatment infrastructure be expanded to offer four levels of  
3 treatment.

4 Inpatient treatment for a very small population.

5 Residential rehab also for a small population.

6 Intensive outpatient treatment. So, this is four days  
7 a week, say.

8 And then, the vast majority of individuals would be  
9 receiving treatment in an ambulatory setting, just routine  
10 outpatient care.

11 **Q.** And did you estimate how those individuals in treatment  
12 would be -- would be distributed among those four levels of  
13 care?

14 **A.** Yes, I did. I used a national -- two national data  
15 sources to derive what I feel are reasonable estimates for  
16 distributing those individuals across different -- the four  
17 different levels of care.

18 **Q.** And is that -- is that data source and the analysis you  
19 conducted reasonable and predictive at a population level?

20 **A.** Yes, it is.

21 **Q.** Now, and is it a reasonable methodology for classifying  
22 the levels of treatment required for individuals with  
23 addiction in Cabell County and the City of Huntington?

24 **A.** Yes, it is. And, among other things, it corresponds  
25 with the American Society of Addiction Medicine levels of

1 care.

2 **Q.** And in what kind of setting, and I think you may have  
3 touched on this, Dr. Alexander, will most treatment be  
4 provided within the abatement plan?

5 **A.** The vast majority in -- the majority in outpatient  
6 care, and if you look at the total number of treatment days  
7 in the four levels of care, it would be the vast majority  
8 that would be provided in the lowest acuity level of care,  
9 ambulatory care.

10 **Q.** And is the lowest acuity level of care also the least  
11 expensive level of care?

12 **A.** Yes, it is.

13 **Q.** Now, on that note, did you also provide estimates of  
14 the daily costs of treatment at the four various levels of  
15 treatment?

16 **A.** Yes.

17 **Q.** And how did you calculate those daily treatment costs?

18 **A.** Well, I've discussed my general approach, I believe,  
19 twice at least, so I used the same scientific approach. In  
20 this instance, I ultimately arrived at a local estimate  
21 based on Medicaid reimbursement that allowed for me to  
22 estimate the unit costs of each level of care.

23 **Q.** And did you rely on a particular source of cost data in  
24 determining the treatment -- daily treatment costs?

25 **A.** Yes, I did.

1       **Q.**     And what was that source?

2       **A.**     Well, I believe it would be identified in this  
3       spreadsheet lower down. One would have to scroll down  
4       further still. And further still.

5             And so, this indicates, for example, Rows 59 through 62  
6       identify the average daily costs for different types of care  
7       and I include the references here or the sources for where I  
8       derived these estimates.

9             For example, the average daily costs for outpatient  
10       initiated care, \$63.77. And that was based on West Virginia  
11       reimbursement rates for such care.

12       **Q.**     And why don't you go ahead, Dr. Alexander, if you  
13       would, and read the daily costs for outpatient care,  
14       residential care, and inpatient care.

15       **A.**     Of course. So, outpatient care, \$63.77.

16             Intensive outpatient care, \$69.01.

17             Again, these are average daily costs.

18             The average daily cost for residential care, \$78.15.

19             And the average daily cost for inpatient care, \$78.95.

20             I would like to note that these are the estimated costs  
21       for individuals that begin in any one of these four  
22       treatment levels, but these individuals may not necessarily  
23       stay in that treatment level for the entire year. So, these  
24       costs essentially represent weighted averages of the costs  
25       of caring for the population of individuals that begin in

1 outpatient, intensive outpatient, residential, or inpatient  
2 care.

3 **Q.** And do those weighted averages take into account the  
4 fact that people may receive less intensive levels of care  
5 as they progress?

6 **A.** They do. They allow for -- they are based on the fact  
7 that individuals don't stay and require a single level of  
8 care throughout their treatment course.

9 **Q.** And all of this is built into the cost estimates and  
10 calculations that you prepared, correct, Dr. Alexander?

11 **A.** Well, Mr. Barrett ultimately derived the costs for the  
12 community, but I provided unit costs, such as those we've  
13 discussed.

14 **Q.** And did you also provide incidence numbers, as well, or  
15 population metrics?

16 **A.** Yes. I provided estimates of the size of populations  
17 needing different levels of care.

18 **Q.** Now, Dr. Alexander, in estimating the level of services  
19 required, did you subtract out the level of services that  
20 are currently being provided in the City of Huntington and  
21 Cabell County?

22 **A.** No, I did not.

23 **Q.** And why didn't you subtract out those who are already  
24 getting services?

25 **A.** Well, I have no idea what the future will hold. I



1 don't know -- you know, Lily's Place currently has 18 beds.  
2 I don't know if they'll have 36 in the future. The PROACT  
3 Treatment Program may have 700 slots now. I have no idea if  
4 their funding will be pulled and they'll have 600 or 500  
5 beds in the future. So, I didn't try to develop an  
6 abatement plan on the margin, just what would be needed to  
7 fill out the gaps or patch up where there are current holes.  
8 What I did was develop an abatement plan that, in its  
9 totality, I was confident would be sufficient to achieve the  
10 gains that I have identified, a reduction by 50 percent in  
11 overdoses and deaths over 15 years.

12 **Q.** Now, Dr. Alexander, does your analysis of the  
13 population and cost inputs for the abatement plan include  
14 any estimate of the costs or losses incurred by Cabell  
15 County or the City of Huntington in the past?

16 **A.** No. My plan is forward looking. It's not backward  
17 looking.

18 **Q.** All right, Dr. Alexander. Let's move for now from this  
19 topic. Do you have an estimate, and you've referred to it,  
20 of the impact that implementing the abatement plan would  
21 have on the opioid epidemic in Huntington and Cabell?

22 **A.** Yes. I estimate, if this plan is implemented, the  
23 morbidity and mortality and, specifically, overdose deaths  
24 can be decreased by up to 50 percent in 15 years.

25 **Q.** And does that 50 percent reduction in overdose

1 mortality also include a reduction in incidence of Opioid  
2 Use Disorder?

3 **A.** It does. I mean, what we know from a lot of  
4 experiences, that the morbidity and mortality of opioids  
5 track together. So, yes, it includes similar reductions in  
6 rates of Opioid Use Disorder.

7 **Q.** And what is the basis for arriving at a 50 percent  
8 reduction in harms?

9 **A.** Well, I have experience modeling the opioid epidemic  
10 myself and I'm also familiar with many other models that  
11 have been performed. And so, it's the combination of those  
12 models, my experience speaking with individuals on the  
13 ground in the community, and all that I've learned about the  
14 community, and its grit, and resilience, and the  
15 perseverance of individuals in the community, and it's the  
16 totality of evidence that I understand through my  
17 professional job regarding the impact that these  
18 interventions can have.

19 **Q.** Now, is a 50 percent reduction in overdoses and Opioid  
20 Use Disorder a meaningful outcome for an abatement plan?

21 **A.** It is. It is. I have -- I mean, we're talking about  
22 hundreds or thousands of lives to be saved and many, many  
23 more if you think about the ripple effect and the cascading  
24 effect of this epidemic that I think other experts have  
25 testified to, to great effect. So, the 50 percent reduction

1 is a -- would represent an enormous change from the current  
2 state of affairs.

3 **Q.** Now, why does the abatement plan model interventions  
4 over a 15-year period?

5 **A.** Well, you can think of this sort of like scaffolding in  
6 that 15 years provides a sufficient amount of time to build  
7 up the program and ramp up interventions and services and  
8 then gradually to dismantle the scaffolding.

9 And once the community has sufficient momentum and  
10 resources and once the -- once the level of the epidemic has  
11 been effectively abated to a large enough degree that such  
12 additional investments need not arise from this plan  
13 specifically.

14 So, I think 15 years strikes a reasonable compromise.  
15 You know, a plan that's a hundred years would collapse under  
16 its own weight and a plan that's one or two years isn't --  
17 is -- would be little different than -- than the  
18 communities', you know, current day-to-day struggles with  
19 funding and never knowing if, you know, if the grant will be  
20 renewed or if there will be resources that are urgently  
21 needed not just now, but to have the confidence that these  
22 will be sustained over time.

23 **Q.** So, essentially, Dr. Alexander, is it fair to -- well,  
24 I don't want to -- I don't want to lead you. So, is it your  
25 opinion that the intervention laid out in your plan

1 essentially brings the epidemic down to a manageable level?

2 MR. HESTER: Object as leading.

3 THE COURT: Sustained.

4 BY MS. SINGER:

5 Q. Dr. Alexander, with the abatement plan, do you believe  
6 that Cabell County and the City of Huntington will be able  
7 to manage the level of harms and needs in the community?

8 A. Well, it's my best professional judgment where I sit  
9 that with this -- these investments and these programs and  
10 services that -- that the community will be in a much better  
11 place and much better able to manage ongoing harms that  
12 would be at a much lower level than they are now.

13 Q. Now, is it your opinion to a reasonable degree of  
14 certainty that the plan's projections out 15 years are  
15 reliable?

16 A. Yes.

17 Q. And what do you base that opinion on?

18 A. Well, I've carefully reviewed -- I've carefully  
19 reviewed the populations in need, as well as the likely  
20 impact of different interventions. And so, you know, it's a  
21 little bit hard to discuss in the abstract, but for a given  
22 category, let's say we're talking about naloxone  
23 distribution, I've carefully reviewed the populations that  
24 are in need of naloxone, as well as estimated the effect of  
25 the interventions on those needs over time.

1       **Q.**    Now, we spoke particularly about the projections  
2       related to naloxone and to OUD treatment, but are the  
3       interventions and unit costs of the abatement plan overall  
4       constant over the entire 15-year period of the plan?

5       **A.**    They're not. And I believe that I may have prepared a  
6       slide that speaks to that, but they're not constant, and  
7       they shouldn't be constant because some -- some programs and  
8       services should be front loaded and scaled up more intensely  
9       in the short-term than the long-term.

10       I think an example of that are investments in expanding  
11       the drug court capacity. Some interventions such as  
12       medication assisted treatment I suggest be scaled similarly  
13       ramping up over time over the 15-year period.

14       Many interventions can be scaled down over time in  
15       terms of the investment that's required.

16       Of course, I apply this trend ratio. And so, for many  
17       of the interventions, I think that far fewer resources will  
18       be needed in Year 15 than Year 1.

19       And I would imagine, while I haven't reviewed the  
20       numbers carefully, that Mr. Barrett's calculations would  
21       reflect that.

22       **Q.**    And, Dr. Alexander, you mentioned a slide you prepared.  
23       Would that slide be helpful in summarizing your testimony on  
24       this point?

25       **A.**    Yes, it would.

1 MS. SINGER: Your Honor, may we publish Slide 28?  
2 Or maybe not 28. The key features.

3 BY MS. SINGER:

4 Q. Dr. Alexander, is this the slide you were referring to?

5 A. Yes.

6 Q. And can you describe what you need to communicate on  
7 the key futures of the abatement plan?

8 A. Well, I've mentioned that the plan is dynamic and I  
9 haven't yet discussed, but one important component of the  
10 plan is surveillance and evaluation that's ongoing. Many  
11 interventions begin with a short ramp-up period. I use the  
12 analogy of scaffolding to suggest that, in later years,  
13 there would be a reduction in service levels and in the  
14 intensity of interventions significantly, which would be  
15 commensurate with declining morbidity and mortality. And,  
16 as noted, I estimate that the number of people with Opioid  
17 Use Disorder or dying from overdoses can be cut in half.

18 Q. And, Dr. Alexander, you just referenced the  
19 surveillance element of the abatement plan. Why don't you  
20 take a brief moment and describe what that entails?

21 A. Well, this is very important. And I combine it with  
22 not only surveillance, but iterative evaluation and  
23 leadership and governance. And the bottom line is that  
24 Cabell County and the City of Huntington are fortunate to  
25 have some data points that can be used to understand how

1 varied interventions are performing and to refine the  
2 abatement plan over time.

3 So, not the plan. Let me correct myself. To refine  
4 the investment of resources. So, the plan is -- is a plan  
5 that allows for flexibility because it's unclear what's  
6 around the corner. The epidemic has continued to change and  
7 evolve over time. And so, it's important not only that  
8 there's a governance, and my -- my plan includes  
9 opportunities for governance, but also that there's ongoing  
10 surveillance.

11 **Q.** And does your -- does your anticipated -- does the  
12 surveillance element of the plan suggest a lack of  
13 confidence in the overall direction and elements of the  
14 plan, Dr. Alexander?

15 **A.** No. It's just good public health and public policy  
16 strategy. You know, you have to know where you're at if you  
17 want to know where you're going.

18 And so, if you take something like, you know, children,  
19 let's take non-medical opioid use among children 18 years  
20 and younger. It's vital that the school system have  
21 reliable information about how common that is so that they  
22 can make decisions about allocating budgets and investing in  
23 personnel to address that significant burden.

24 **Q.** Now, Dr. Alexander, does the abatement plan include  
25 estimates of the number of people who could be treated

1 annually over the 15-year plan?

2 **A.** Yes.

3 **Q.** And did you prepare a slide that describes those  
4 population numbers?

5 **A.** Yes, I did.

6 MS. SINGER: Your Honor, may we publish Slide 29,  
7 please?

8 THE COURT: Yes.

9 MS. SINGER: Or not 29, the next slide.

10 BY MS. SINGER:

11 **Q.** And, Dr. Alexander, is that the slide you prepared to  
12 describe the changing population numbers of people with OUD  
13 treated in the abatement plan?

14 **A.** Yes.

15 **Q.** And can you explain this chart to the Court, please?

16 **A.** Of course. So, on the Y axis is number of individuals.  
17 And that ranges from 0 to 9,000. And then the bars  
18 represent the total population with Opioid Use Disorder.  
19 And the gray portion of the bars represent individuals who  
20 are not in treatment. And the yellow bar, the yellow  
21 portion, represents the proportion that are in treatment.

22 And so, I'd like to just highlight -- and the X axis  
23 represents the years from 2021 to 2035.

24 So, I just would like to make two brief points. The  
25 first is that you can see that the total population with



1       opioid addiction is declining significantly in the community  
2       over this 15-year period.

3               The second is that the fraction of the bar height  
4       that's shaded yellow increases over time, representing a  
5       greater and greater proportion of people with addiction that  
6       are in treatment.

7       **Q.**   And is that -- is that proportion consistent with the  
8       numbers that you described earlier?

9       **A.**   Yes.

10       **Q.**   Dr. Alexander, did you prepare a slide that describes  
11       the plan's relationship thematically to the current efforts  
12       in Cabell County?

13       **A.**   Yes, I did.

14       **Q.**   And would that slide assist your testimony?

15       **A.**   Yes.

16               MS. SINGER: Can we turn to the next slide,  
17       please, Your Honor? Thank you.

18               BY MS. SINGER:

19       **Q.**   Dr. Alexander, this slide, Building on Community  
20       Efforts, can you describe what you aim to convey with this  
21       information?

22       **A.**   Well, one question that I think I've been posed or that  
23       may be of interest is what will the abatement plan add and  
24       this slide depicts what it will add. It will increase the  
25       breadth of services. It will expand and cover some

1 developed -- the development of some services that are not  
2 offered at all currently. I don't believe there's a formal  
3 academic detailing program, a specialized overdose unit, or  
4 a full family residential -- of course.

5 MR. HESTER: Your Honor, may I object? This again  
6 goes back to the point that Dr. Alexander's expert report  
7 did not address the current level of activity and programs  
8 in the community and did not purport to be providing some  
9 evaluation of the current level or what his redress program  
10 would add. It was rather he specifically disclaimed any  
11 evaluation of the current level of services in the community  
12 and said he was not evaluating what his programs would add.  
13 So, I believe this is beyond the scope of what was disclosed  
14 to us in his expert report. And we are put in a difficult  
15 position now because he disclaimed any such analysis in his  
16 report and in his deposition.

17 THE COURT: Well, he said earlier he wasn't  
18 opining on that, didn't he?

19 MS. SINGER: So, Your Honor, I think to accurately  
20 --

21 MR. NICHOLAS: I was only going to make that very  
22 point, that I think he said about five minutes ago that he  
23 was specifically not addressing this issue.

24 THE COURT: Well, and he said it earlier, too, I  
25 think.

1 MR. NICHOLAS: Yeah.

2 MS. SINGER: So, Your Honor, what I think we're  
3 trying to navigate here is Dr. Alexander does say in his  
4 report that he looked at existing programs on the ground.  
5 He didn't conduct an evaluation of those programs to assess  
6 their outcomes, but what he is describing here is not there  
7 are 400 beds and we need 6, or 60, or 600 more.

8 What he's talking about generally or categorically is  
9 the kinds of supports that are included in this abatement  
10 plan to supplement, expand, scale, all of those different  
11 words, what currently exists.

12 MR. HESTER: But that's exactly the point. This  
13 point about supplementation or expanding what currently  
14 exists is exactly what he said he wasn't doing.

15 MS. SINGER: Again, I think that is an existing  
16 bed and service level, Your Honor, not in terms of the broad  
17 themes of what the plan does, which is all this slide aims  
18 to convey.

19 MR. HESTER: I mean, Your Honor, my point is, we  
20 were not provided with this opinion from Dr. Alexander in  
21 his expert report. He specifically said he wasn't doing  
22 this in his deposition. And so, here we are.

23 THE COURT: I will sustain the objection, Ms.  
24 Singer.

25 MS. SINGER: All right.

1 THE COURT: Sustained.

2 MS. SINGER: Your Honor, what I might suggest, I  
3 think I only have a few questions to wrap up, but if it --  
4 with the Court's permission, I know where we are. If I  
5 could take the lunch hour, I think I could come back and get  
6 Dr. Alexander off the stand very quickly, at least for  
7 direct.

8 THE COURT: That's fine. I'll hold you to it.

9 MS. SINGER: It's a certified promise, Your Honor.

10 THE COURT: We'll be in recess until 2:00.

11 (Recess taken)

12 MR. MAJESTRO: Your Honor, before we conclude Dr.  
13 Alexander's testimony, I wanted to inform the Court of a  
14 couple of things.

15 First of all, I'm going to be presenting Mr. Barrett,  
16 who is the next witness. The issue that Your Honor and the  
17 parties all raised this morning that's leading to the  
18 briefing that we're working on for 6:00 p.m. will also be  
19 implicated by Mr. Barrett's testimony on two levels; one,  
20 because he was relying on Dr. Alexander; and the second  
21 because he will have the -- we will have the same issue with  
22 his summaries that we would like to put into evidence  
23 instead of spending three hours reading numbers from a  
24 spreadsheet.

25 So, even if we finish a half an hour or 40 minutes

1 early today, I think from the cross examination we're  
2 probably going to finish at the end of the day and this is  
3 not going to be an issue, but I wanted to get the Court's  
4 permission that, even if we have half an hour or 40 minutes  
5 left, that it is probably more efficient for us to wait to  
6 put Mr. Barrett on pending your review of the briefs we're  
7 going to file at 6:00.

8 THE COURT: Okay.

9 MR. MAJESTRO: That's the -- and we don't think  
10 we're in a time crunch to get the final two witnesses on.

11 THE COURT: Okay. Well, let's see where we go and  
12 that would be fine with me, believe me.

13 MR. MAJESTRO: And then, the second point that --  
14 when Ms. Singer passes Mr. Barrett today, we are -- I mean  
15 Dr. -- I'm sorry -- Dr. Alexander today, we are relying for  
16 today on your conditional admission and we'd like to reserve  
17 the right to re-call him if you reverse that tomorrow and we  
18 believe that would be appropriate because it's still our  
19 case. And so, we wanted to -- we wanted to make that clear,  
20 clear on the record. I think the defendants object to the  
21 latter argument, but I will let them speak for themselves.

22 MR. HESTER: Yes, Your Honor. We would object to  
23 any suggestion of re-calling Dr. Alexander. We think the  
24 Court has been clear in warning the plaintiffs that they  
25 were on -- I believe the Court used the phrase "thin ice" --

1 and they were proceeding at their risk, as they did  
2 previously with Dr. McCann and Mr. Rafalski. So, I think  
3 they're making a choice. We don't think they should get a  
4 do-over.

5 THE COURT: Well, we'll deal with it when it comes  
6 up and, if Ms. Singer is on thin ice, then the Court is  
7 probably out there with her.

8 MR. MAJESTRO: For what it's worth, Your Honor, I  
9 think we're on firm ground. And then, with that, Your  
10 Honor, I will asked to be excused and I'm going to go back  
11 to prepping Mr. Barrett. Thank you.

12 MS. SINGER: It's nice to have company, Your  
13 Honor. Thank you for that.

14 THE COURT: Yes.

15 BY MS. SINGER:

16 **Q.** Dr. Alexander, consistent with my certification to the  
17 Court this morning, I have only two or three questions for  
18 you this afternoon.

19 The first is, the abatement plan that you described  
20 lays out a substantial body of work. Is all of this really  
21 necessary for Cabell County and the City of Huntington?

22 **A.** Yes, it is necessary. The County and the City are  
23 fortunate to have the number of individuals and  
24 organizations that have worked so hard thus far to address  
25 the epidemic and I have spoken with many of them during the

1 course of the preparation of my materials, but one can't do  
2 abatement well on a month-by-month basis.

3 You know, a seven-year-old girl who has lost her father  
4 or a 35-year old man who is wondering if he can maintain  
5 sobriety need to have security that the programs and  
6 services that they're accessing will be there after the  
7 first of the year. So, I think that the programs and  
8 services that I have outlined are -- are vital to provide  
9 the security and the stability for long-term abatement in  
10 the community.

11 The other point that I would make is that, as  
12 Congressman Delaney once said, the cost of doing nothing is  
13 not nothing. In other words, there are enormous, not just  
14 social and psychological, but economic costs of inaction and  
15 there's a very good evidence base to support the economic  
16 value of the sorts of programs that I've discussed. So, I  
17 think it's important.

18 You know, my sense from -- from reviewing the materials  
19 that I've reviewed and speaking with individuals that I have  
20 spoken with is that this really has been an existential  
21 threat for the County and the City and that I think without  
22 a scale-up and an increase in the scope and breadth and  
23 extent of services the opioid epidemic may remain the  
24 defining legacy of this community in years to come.

25 MR. HESTER: Your Honor, we would object and move

1 to strike the last portion of Dr. Alexander's testimony on  
2 the same basis that we've discussed this morning, that he  
3 has not purported in his opinions and in his expert report  
4 to evaluate the incremental need or scaling up beyond what's  
5 already been done. He's not analyzed that question.

6 THE COURT: Ms. Singer?

7 MS. SINGER: Your Honor, I think that there is a  
8 mis-impression that's been created here. What Dr. Alexander  
9 has previously testified to and what he lays out in the  
10 report is the need for a comprehensive plan to address the  
11 opioid epidemic. That's what he's just testified and what  
12 he testified to was the seriousness of the issue.

13 THE COURT: I'll overrule the objection.

14 (Pause)

15 BY MS. SINGER:

16 **Q.** All right. Dr. Alexander, do Huntington and Cabell  
17 County have the institutional capacity to carry out a  
18 program this large and complicated as you've laid out in the  
19 abatement plan?

20 MR. HESTER: Same objection, Your Honor. He did  
21 not purport to analyze the capacity in the community for the  
22 services being offered. He did not include that in his  
23 opinion and we did not have a chance to depose him on this.

24 MS. SINGER: If the Court would like to hear the  
25 question again, and I know you have it in front of you, it



1 was not what is needed beyond what exists. It's whether the  
2 County --

3 THE COURT: Does the County have the institutional  
4 capacity to carry out a program this large and complicated.

5 MS. SINGER: Which doesn't relate, Your Honor, to  
6 what programs already exist.

7 THE COURT: Overruled.

8 Can you answer the question, Dr. Alexander?

9 THE WITNESS: Of course. I think that the  
10 community does. My experience from examining materials that  
11 I have examined and engaging with the experts on the ground,  
12 the community is fortunate to have any number of committed  
13 hard-working individuals ranging from, you know, Mayor  
14 Williams to Jan Rader and all of the others that I have had  
15 the fortune to speak with.

16 There are many programs and they, frankly, have done a  
17 remarkable job with not very much, but if you examine the  
18 magnitude of the opioid epidemic, it's clear, and I believe  
19 that I have made it clear, that much more is needed.

20 In addition to these building blocks which include  
21 Lily's Place, Project Engage, the drug courts, the Quick  
22 Response Team and a number of other programs, there are also  
23 major organizations, Marshall Health, Marshall University,  
24 Cabell Huntington Hospital, St. Mary's Hospital, the  
25 Prestera Treatment System. And so, I think that these large

1 organizations will be important and contribute to my  
2 confidence that the community does have the constitutional  
3 capacity to pull this off.

4 **Q.** And last question, Dr. Alexander. Has anything in the  
5 scale of the abatement plan you've laid out been tried  
6 before?

7 **A.** Well, these -- these programs and interventions are  
8 being used all around the country all of the time. And I  
9 think in my earlier testimony, I emphasized that one of the  
10 silver linings is that we have so much evidence.

11 This is not a moonshot. This is not something that is  
12 beyond the capability of this community. But it will take  
13 hard work, and it will take resources, and it will take  
14 coordination and planning such that I speak to in the  
15 materials that I've provided.

16 I think if the -- Cabell County and the City of  
17 Huntington implement this plan, I think that they have every  
18 reason to look forward to many, many good years ahead and I  
19 believe that there's not a moment to lose.

20 MS. SINGER: So, Your Honor, subject to the  
21 reservation Mr. Majestro laid out and for the efficiency of  
22 the Court's time and the witness's, my preference would be  
23 to pass the witness at this point subject to the Court's  
24 ruling on the evidentiary issue tomorrow morning.

25 THE COURT: Okay.

1 MR. HESTER: And, Your Honor, just for the record,  
2 we maintain our objection to any suggestion of re-calling  
3 Dr. Alexander.

4 THE COURT: I understand, Mr. Hester. Thank you.

5 MS. SINGER: Thank you, Your Honor.

6 Thank you, Dr. Alexander.

7 MR. HESTER: And, Your Honor, one other point I  
8 might make, as the witness has been passed to us now, there  
9 are elements of Dr. Alexander's methodology, assumptions  
10 he's made and the like that have not been explored on direct  
11 examination.

12 We would intend to cross examine on those points, but  
13 we certainly didn't want to waive our objection to the  
14 introduction of this evidence by doing so, but we feel  
15 constrained to examine some of those methodologies and  
16 assumptions because, if the Court admits this evidence, then  
17 Mr. Barrett is going to be relying on it.

18 THE COURT: Well, I understand, and I think you're  
19 entitled to do that.

20 Mr. Ackerman?

21 MR. ACKERMAN: Before defendants begin cross  
22 examination, Your Honor, there is one issue we would like to  
23 address and I think it makes sense to address it now rather  
24 than interrupting the cross examination.

25 At 10:45 p.m. last night, we received a supplemental

1 list of 51 exhibits from McKesson and, based on the  
2 contents, we believe McKesson intends to use some of those  
3 documents in the cross examination of Dr. Alexander.

4 Your Honor, if that is the case, we object to the use  
5 of any of those documents because the disclosure at  
6 10:45 p.m. violates the parties' stipulation with the joint  
7 trial exhibit stipulation, which is at Docket 1029. Docket  
8 1029, Paragraph 3(b), which is on Page 6, provides that  
9 cross examination documents must be listed on the exhibit  
10 list or disclosed by 7:00 p.m. on the day prior to their  
11 expected use at trial. These documents were disclosed at  
12 10:45.

13 The issue, frankly, that we are concerned with is that  
14 we just had a week off of trial and all the sudden received  
15 this disclosure at 10:45 on Sunday when defendants could  
16 have disclosed this at any point during the off week and  
17 given us the notice that the parties bargained for in the  
18 stipulation and that the Court ordered.

19 So, Your Honor, we would object to those documents.  
20 When they come up, we will bring them up. Certainly, Your  
21 Honor, with respect to the stipulation you have chastised  
22 the plaintiffs when we have been accused of gamesmanship.  
23 We have done our best throughout the last four or five weeks  
24 of trial to provide disclosures to defendants consistent  
25 with this stipulation and we were surprised to have received

1 the supplement last night.

2 MR. HESTER: Your Honor, the stipulation only  
3 provides that we can use exhibits in cross examination if  
4 they're on the exhibit list and we put them on last night.

5 I would add two points. First, that we received the  
6 defendants' demonstrative that they've used today -- I'm  
7 sorry -- the plaintiffs' demonstrative that they used today  
8 at 10:30 or so last night. We also received a set of  
9 documents that they planned to use with Dr. Alexander last  
10 night.

11 We're doing the best we can under a lot of time  
12 pressure to keep our exhibit list up to date. That's all  
13 we've done.

14 And the exhibit list is not -- there's nothing in the  
15 stipulation that provides for any timeliness in terms of  
16 having documents on the exhibit lists. As long as we've  
17 supplemented the exhibit lists, we can use them on cross  
18 examination under the terms of the stipulation, as we  
19 understand it.

20 MR. ACKERMAN: With all due respect, Your Honor,  
21 that is not what the stipulation says. The stipulation at  
22 Paragraph 3(b), Page 6, says the parties must include on  
23 their exhibit lists all exhibits they intend to use on cross  
24 examination, as Mr. Hester said.

25 The very next sentence says the parties may use on

1 cross examination exhibits that were not previously  
2 identified on an exhibit list, but only if they disclose  
3 those previously unlisted exhibits that they reasonably and  
4 in good faith believe may be used to cross examine a witness  
5 by 7:00 p.m. on the day prior to their expected use at  
6 trial.

7 The problem we have, Your Honor, and, quite frankly, if  
8 this were one or two exhibits, this probably wouldn't be an  
9 issue. We received a set of 50 exhibits last night. They  
10 were voluminous. There was no way for us to review them  
11 having received them at 10:45 p.m.

12 The other point I would make with respect to the  
13 demonstrative, there is no provision in this stipulation  
14 relating to demonstratives. We have been providing  
15 defendants copies of our demonstratives the night before  
16 when they are ready but, frankly, we have been waiting to  
17 get their objections to exhibits because their objections to  
18 exhibits sometimes affect what goes in a demonstrative and  
19 that's exactly what happened last night.

20 MR. HESTER: Your Honor, we received the  
21 Plaintiffs' exhibit list that -- of documents they plan to  
22 use with Dr. Alexander at, I believe, 7:00 last night. And  
23 so, by 10:30, we supplemented our exhibit list to include  
24 exhibits that were responsive to what had been disclosed to  
25 us.

1           The plaintiffs' exhibit list included a number of  
2 documents that were not on Dr. Alexander's reliance list.  
3 They were new materials. And we have undertaken to provide  
4 these exhibits as quickly as we can. It was three and a  
5 half hours after we had the disclosure from the plaintiffs.

6           THE COURT: Well, let's go forward and see where  
7 we get.

8           MR. ACKERMAN: Okay. We will be objecting to use  
9 of those documents if they are -- if they come up.

10          THE COURT: Well, I will take a look when it comes  
11 up.

12          Mr. Nicholas?

13                                   **CROSS EXAMINATION**

14                   **BY MR. NICHOLAS:**

15          **Q.** Good afternoon, Dr. Alexander. How are you?

16          **A.** Fine, thank you.

17          **Q.** Good. I hope you're enjoying all of this legal  
18 argument back and forth. I don't have very many questions,  
19 but I have a few.

20               And I want to shift over to sort of a new topic, which  
21 is the -- the people that are covered, the population that's  
22 covered by your proposed abatement plan, and my first  
23 question is simply this: Is it correct that the abatement  
24 plan that you set forth would provide services and treatment  
25 to individuals who never took prescription opioids?

1       **A.**    Yes, it is.

2       **Q.**    And do you agree -- I think -- well, I think you will,  
3       but do you agree that there are individuals in Cabell County  
4       and in the City of Huntington who have OUD who have, in  
5       fact, never used a prescription opioid?

6       **A.**    Yes, I do.

7       **Q.**    And there are people in Cabell County and in the City  
8       of Huntington with HIV who have never used a prescription  
9       opioid; isn't that correct?

10      **A.**    Well, yes, it is, but my estimates of needs for people  
11      with HIV are only limited to those that I estimate have HIV  
12      as a result of the opioid epidemic.

13      **Q.**    Fair enough. Would you have the same answer for me  
14      with regard to infectious endocarditis and Hepatitis C?

15      **A.**    Yes, I would.

16      **Q.**    Okay. Playing this out just a little bit further, if  
17      someone never touched a prescription opioid and in the  
18      future started using heroin, or fentanyl, or illegal  
19      fentanyl, or carfentanil and developed Opioid Use Disorder  
20      as a result of that use, treatment for their Opioid Use  
21      Disorder would be covered under your plan, correct?

22      **A.**    Yes. My plan is to abate the opioid epidemic in the  
23      community and I don't think that that can be done without --  
24      I think there's one epidemic, not two; an opioid epidemic,  
25      not a prescription epidemic and a fentanyl and heroin



1 epidemic.

2 **Q.** I understand. So, your plan would address people whose  
3 Opioid Use Disorder was caused by use of -- would be --  
4 would relate back, in your view, to the use of prescription  
5 opioids and it would also cover people who simply started on  
6 illegal heroin, fentanyl, carfentanil and continued on in  
7 that vein, correct?

8 **A.** Yes. That latter population representing a small  
9 proportion of the entire group of people that use opioids in  
10 the community.

11 **Q.** And your plan for services and treatment would also  
12 include folks who simply misused opioids, correct, misused  
13 prescription opioids?

14 **A.** Well, non-medical use of prescription opioids is an  
15 important dimension of the opioid epidemic. So, the plan  
16 would address that.

17 **Q.** Understood. And, Dr. Alexander, you are not offering  
18 any opinions here today that are specific to any of the  
19 three distributor defendants; is that correct?

20 **A.** Yes, that's correct.

21 **Q.** And your proposed abatement plan does not recommend any  
22 changes to the distributors' business practices in any way;  
23 is that correct?

24 **A.** Well, my abatement plan addresses one of the key  
25 drivers of the epidemic, which is the oversupply of

1 prescription opioids, and you don't get prescription opioids  
2 that don't come through the hands of a distributor. You  
3 have a manufacturer here and a patient here and every single  
4 one of those 40 million prescriptions that I believe entered  
5 Cabell County and the City of Huntington passed through the  
6 hands of a distributor.

7 **Q.** And every one of those however many prescriptions you  
8 just referenced passed through the hands of a licensed  
9 physician, correct?

10 **A.** Well, I would guess that the vast majority did,  
11 although there is -- there's the potential for diversion  
12 from pharmacies and the like, also.

13 **Q.** Okay. But your -- but would you agree with me that the  
14 supply of opioids is caused -- that the cause of the supply  
15 of opioids is the number of prescriptions that are written?

16 **A.** Well, the oversupply of opioids in Cabell County and  
17 the City of Huntington is a function of many factors.

18 **Q.** All I'm asking you is whether, taking however many  
19 factors you want into account, they all trace back to the  
20 fact that a licensed physician wrote a prescription?

21 **A.** Again, I believe that there is some diversion of --  
22 there's evidence that there's diversion of opioids upstream  
23 from prescribers, but there's no question that because of a  
24 false assurance that prescribers have had both regarding the  
25 safety of opioids, as well as their effectiveness for

1 chronic non-cancer pain, that opioids have been oversupplied  
2 in the community through the hands of prescribers.

3 **Q.** In that you are now referring to the issue of standard  
4 of care; is that correct, the change in the standard of  
5 care?

6 **A.** Well, I'm just referring to the fact that historically,  
7 as I discussed during my earlier testimony, opioids have  
8 been oversupplied in part because of underestimations of  
9 their risks and overestimations of their benefits.

10 **Q.** Your abatement plan does not recommend any new  
11 licensing requirements for distributors, does it?

12 **A.** My abatement plan doesn't include the entire universe  
13 of potential methods that might be used to affect the opioid  
14 epidemic in the community. What I focused on were  
15 interventions that could be implemented by the County and by  
16 the City for which there was good evidence, a robust  
17 scientific evidence base, and interventions that I thought  
18 would be most likely to bring about the greatest impact.

19 **Q.** So, your abatement plan does not recommend any new  
20 licensing requirements for distributors, correct?

21 **A.** It -- it's correct because I focused on interventions  
22 that could be implemented by the County and by the City.

23 **Q.** And your abatement plan does not propose any new  
24 reporting requirements for distributors; is that correct?

25 **A.** Once again, the interventions that I focused on, some

1 of them do -- are intended to decrease the oversupply of  
2 opioids through, for example, promoting a more evidence  
3 based prescribing and reducing -- and educating the general  
4 public and patients regarding the appropriate role of  
5 opioids, but I focused on interventions that can be  
6 implemented by the County and City.

7 **Q.** I'm asking a pretty narrow question, Doctor, and I  
8 appreciate that you're giving a more fulsome answer, but all  
9 I'm asking you is whether -- all I want to do is confirm  
10 that your abatement plan, as described in your expert  
11 report, does not propose any new reporting requirements for  
12 distributors?

13 MR. ACKERMAN: Objection, asked and answered.

14 MR. NICHOLAS: I don't think we've had an answer  
15 yet.

16 THE COURT: I don't think we have. Overruled.

17 THE WITNESS: It does not.

18 BY MR. NICHOLAS:

19 **Q.** And your abatement plan does not propose any new  
20 physical security requirements for distributors; isn't that  
21 correct?

22 **A.** Yes, that's correct.

23 **Q.** Okay, thank you. Just a few more questions.

24 You were not asked by the -- by the plaintiffs in this  
25 case to examine the sources of funding for currently

1 existing programs; isn't that correct?

2 **A.** I was asked to learn as much as I could about the  
3 programs and services that are offered on the ground. So,  
4 in some cases, that included my learning about their funding  
5 sources, but it wasn't the primary focus of my activities.

6 **Q.** Well, were you asked to provide an opinion as to the  
7 sources of funding for currently existing programs in  
8 connection with your expert report?

9 **A.** No, I was not, but I believe your last question was  
10 asking whether I was asked to learn about them. This one  
11 about whether I was asked to provide an opinion, I was not  
12 asked to provide an opinion about the funding sources.

13 **Q.** Okay. I think I read the same question twice. At  
14 least, I hope I did, but you answered me the second time, so  
15 that's fine.

16 And you are not offering any opinion as to whether  
17 Cabell County -- whether Cabell County or the City of  
18 Huntington has -- has had to fund any of the programs that  
19 they have put in place, correct?

20 **A.** I'm not offering an opinion about funding. Again, I  
21 examined the programs carefully and that often included  
22 learning about their funding sources, but I have not  
23 provided an opinion in a legal sense regarding the funding  
24 status of these programs.

25 **Q.** And you're not opining either as to whether Cabell

1 County or the City of Huntington would need to pay for any  
2 aspect of your abatement plan should it be put in place; is  
3 that correct?

4 **A.** I'm sorry. Can you ask that once more, please?

5 **Q.** Yeah. Isn't it also correct that you are not providing  
6 an opinion as to whether Cabell County or the City of  
7 Huntington would need to pay for any aspect of your  
8 abatement plan should it be put in place?

9 **A.** Yes. I'm not offering such an opinion, although I'll  
10 note that my conversations with experts on the ground and my  
11 review of materials make it more than clear the funding  
12 constraints and the resource constraints that the community  
13 faces.

14 **Q.** You have no -- you offer no opinion as to who should  
15 pay or how payment should be allocated; isn't that correct?

16 **A.** Well, that may be incorrect. Can you say what you mean  
17 by allocated?

18 **Q.** Well, yeah, how it should be -- well, you know what?  
19 That's a fair correction. I'm going to limit my question.  
20 I accept your comment and I'm going to try again.

21 You are offering no opinion as to who should pay for  
22 your abatement program, correct?

23 **A.** That's -- that's correct.

24 **Q.** Okay. And I take it you are aware that many of the  
25 programs in your plan are already paid for by the federal

1 government?

2 **A.** I -- I'm aware of sources of funding for some of these  
3 programs and that includes funding, I believe, from the  
4 federal government, and state government, and local  
5 government, yes.

6 **Q.** And most specifically, I guess, you're aware that  
7 treatment costs, including medication assisted treatment,  
8 are paid for through Medicaid; is that correct?

9 **A.** Well, for people who are Medicaid eligible and utilize  
10 the services, it's correct that, you know, sort of  
11 tautologically that those services would be paid for by  
12 Medicaid, but I think the important thing to consider is  
13 that that is a far cry from the totality of treatment  
14 services that are needed for the community.

15 **Q.** Treatment costs are also paid through private insurance  
16 sometimes; isn't that correct?

17 **A.** Yes.

18 MR. NICHOLAS: Okay. I have no further questions.  
19 Thank you very much.

20 **CROSS EXAMINATION**

21 **BY MR. HESTER:**

22 **Q.** Good afternoon, Dr. Alexander.

23 **A.** Good afternoon.

24 **Q.** We met a few weeks ago on Zoom. My name is Timothy  
25 Hester, representing McKesson. Good to see you in person.

1       **A.**    Thank you.

2       **Q.**    Dr. Alexander, if I could ask you, do you still have  
3       with you the Plaintiffs' Exhibit 41907, which is the  
4       Monument Analytics, the redress model that you developed?

5       **A.**    Yes.

6       **Q.**    Let me ask you to go to the front page of that, please.  
7       And, Dr. Alexander, on that front page you list out a number  
8       of the abatement categories; is that right?

9       **A.**    Yes, it is.

10      **Q.**    And let me just make clear how this is all meant to fit  
11      together. I take it that you have developed these  
12      categories of the abatement plan, correct?

13      **A.**    Yes.

14      **Q.**    And then, Mr. Barrett has actually developed the costs  
15      for each of these categories, correct?

16      **A.**    Well, I've provided unit costs, but Mr. Barrett has  
17      calculated the total costs for a given category.

18      **Q.**    And you have not done that calculation of total costs,  
19      correct?

20      **A.**    Yes, correct.

21      **Q.**    And so -- so, Mr. Barrett takes some of your unit  
22      costs. He also takes unit costs from Dr. Young. And he  
23      developed some of his own unit costs and does the math to  
24      come up with the numbers, correct?

25      **A.**    Yes.



1 Q. Okay. So, I wanted to make sure that the record is  
2 clear on what these categories cover.

3 MR. HESTER: And could we pull that up?

4 BY MR. HESTER:

5 Q. I think everybody probably has it. You have it, Dr.  
6 Alexander. I hope the Court has it, too, the category  
7 listing, but let's just wait a minute.

8 MR. HESTER: Sorry, Your Honor.

9 THE COURT: That's all right.

10 MR. HESTER: This will make it a little easier, I  
11 think, for everybody to follow.

12 BY MR. HESTER:

13 Q. So, let's go to the first page, please. We need to go  
14 back a few tabs. So -- so, Dr. Alexander, so we have this  
15 up on the screen so we can all work through this together.  
16 So, this -- this front page here is listing all of the  
17 categories of your abatement plan, correct?

18 A. Yes.

19 Q. And so, you reviewed some of them this morning in your  
20 direct examination and I won't spend a lot of time on those,  
21 but I do want to make sure we've got a clear record on what  
22 all of them entail.

23 So, the first one under Category 1, which is entitled  
24 Prevention-Reducing Opioid Oversupply and Improving Safe  
25 Opioid Use, do you see that?

1       **A.**    Yes, I do.

2       **Q.**    And the first item there is Category 1-A, Health  
3       Professional Education. Do you see that?

4       **A.**    Yes.

5       **Q.**    And that's what you discussed this morning, the  
6       education of doctors and other prescribers about risks and  
7       benefits associated with opioids; is that correct?

8       **A.**    Well, as well as how to identify and treat Opioid Use  
9       Disorder.

10      **Q.**    Well, the Health Professional Education is focusing  
11      particularly on educating doctors and other prescribers,  
12      correct?

13      **A.**    It's focused on educating healthcare providers, but not  
14      just about the oversupply of opioids, but also about the  
15      identification and treatment of people that have Opioid Use  
16      Disorder.

17      **Q.**    Right. Fair enough. So, but the point is, the focus  
18      of this category is on better education to doctors and other  
19      prescribers?

20      **A.**    Yes, healthcare providers that could include nurses  
21      and, you know, EMS technicians, and other healthcare  
22      providers.

23      **Q.**    And you're aware that the West Virginia State Board of  
24      Medicine engages in continuing medical education, correct?

25      **A.**    Yes, I am.

1 Q. And you're aware that one of the continuing medical  
2 education programs they provide relates to opioid  
3 prescribing and risks and benefits, correct?

4 A. Yes. I believe that to be the case.

5 Q. The next item is Category 1-B, Patient and Public  
6 Education. Do you see that?

7 A. Yes.

8 Q. And that entails a mass media campaign to educate the  
9 public about opioid risks and benefits; is that correct?

10 A. Correct.

11 Q. And would include a mass media campaign that would use  
12 platforms such as TV, radio, billboards, print and social  
13 media; is that correct?

14 A. Yeah. I mean, some combination of those, yeah.

15 Q. And you're aware that a mass media campaign on opioids  
16 has already been implemented across the State of West  
17 Virginia, correct?

18 A. I'm aware that there's been some -- some effort to  
19 conduct what are sometimes called social marketing campaigns  
20 in this state, yes.

21 Q. And, in particular, you're aware that the CDC conducted  
22 a mass media campaign specifically implemented in the State  
23 of West Virginia related to the risks and benefits of  
24 opioids?

25 A. I'm not aware of the details of that.

1 MR. HESTER: Could I pull up Dr. Alexander's  
2 deposition from September 18, 2020?

3 BY MR. HESTER:

4 Q. Dr. Alexander, do you remember being deposed in this  
5 case in September of last year?

6 A. Yes, I do.

7 Q. And you testified under oath; is that correct?

8 MR. FARRELL: Objection, Your Honor. This appears  
9 to be improper refreshing of his recollection. He testified  
10 -- his answer was I don't recall. Perhaps if he could be  
11 refreshed before being impeached would be the proper  
12 procedure.

13 THE COURT: When did he say he didn't recall? I  
14 don't understand.

15 MR. FARRELL: Maybe I mis-heard him when the  
16 question was asked whether or not he testified. His answer  
17 was I don't recall.

18 MR. HESTER: I thought he said he wasn't aware of  
19 it.

20 THE COURT: Overruled. Go ahead.

21 BY MR. HESTER:

22 Q. Let me show you, Dr. Alexander, Page 318, Lines 13 to  
23 17, please. And the question was asked, and are you aware  
24 that, in 2017, the CDC conducted a mass media  
25 campaign -- campaign itself, and it was specifically

1 implemented in the State of West Virginia? And your answer  
2 was, yes, I am. Do you see that?

3 **A.** Yes, I do.

4 **Q.** And was that a true and accurate statement when you  
5 made it in your testimony?

6 **A.** Yes. I have no reason to believe otherwise.

7 **Q.** Let me ask you to turn now to Category 1. See if we  
8 can go back to that summary of categories. Category 1-C is  
9 Safe Storage and Drug Disposal. Do you see that?

10 **A.** Yes, I do.

11 **Q.** And that entails collection sites for unused pills,  
12 such as take-back boxes and safe storage practices; is that  
13 correct?

14 **A.** Yes.

15 **Q.** And you're aware that there are multiple pill  
16 collection sites in Huntington and Cabell County already,  
17 correct?

18 **A.** Yes. I mean, I think in each of these domains there  
19 may be some element of something that's been done, but --  
20 and I'd be happy to discuss in more detail any of them, but  
21 the presence of some intervention to address some aspect or  
22 some dimension of one of these problems is a far cry from  
23 the abatement plan that I've proposed.

24 MR. HESTER: Your Honor, I would move to strike as  
25 not responsive.

1 MR. ACKERMAN: And we would oppose, Your Honor.

2 MR. HESTER: Overruled.

3 BY MR. HESTER:

4 Q. But you are aware that there are multiple pill  
5 collection sites in Huntington and Cabell County, correct?

6 A. Yes, I am.

7 Q. The next item is Category 1-D, which is Community  
8 Prevention and Resiliency. Do you see that?

9 A. Yes.

10 Q. And that entails coalition building and focuses on  
11 promoting community resiliency, correct?

12 A. Yes.

13 Q. And you're aware that this is already an ongoing  
14 activity in the community to promote resiliency, correct?

15 A. I'm not aware of the details of the programs, but I  
16 would also point to my earlier response in addressing that  
17 question.

18 Q. But you are aware that there are resiliency efforts and  
19 community building efforts already underway in Cabell and  
20 Huntington, correct?

21 A. There -- I am aware and, absolutely, my conversations  
22 with experts made it more than clear from the experts on the  
23 ground that they have worked very hard to try to maintain  
24 the fabric of the community.

25 Q. Let me ask you to point -- to look at the next item,

1 please, Category 1-E, which is harm reduction, and this  
2 entails syringe services programs to provide clean needles  
3 for IV drug users, correct?

4 **A.** Well, among other things. It also includes naloxone.  
5 Naloxone may be featured separately, but harm reduction  
6 programs often also include naloxone, as well as fentanyl  
7 testing to allow for people to know if their opioids that  
8 they may be using contain fentanyl.

9 **Q.** Right. Naloxone is culled out separately in your plan,  
10 correct?

11 **A.** Yes, it is.

12 **Q.** Let me -- I just want to focus on this one, though,  
13 harm reduction. One piece of the harm reduction category  
14 that you are calling for is syringe services programs that  
15 would provide clean needles for IV drug users; is that  
16 correct?

17 **A.** Well, these programs do far more than just give people  
18 needles. I mean, they offer people access to care. They  
19 screen for sexually transmitted infections. They offer  
20 people access to mental health counseling services and the  
21 like. But, yes, one of their many services is to provide  
22 needle exchange.

23 **Q.** And another is fentanyl testing for IV drug users; is  
24 that correct?

25 **A.** Yes.

1 Q. And that would allow IV drug users to test for fentanyl  
2 and heroin or other drugs that they're injecting, correct?

3 A. Well, yes, it would be to allow for them -- it may not  
4 be that they're injecting. It could be counterfeit pills,  
5 as well, that have hurt and killed lots of people. And so,  
6 fentanyl testing allows for them to identify products that  
7 are contaminated with fentanyl.

8 Q. So, it would be people who are using illicit drugs  
9 testing for whether they have fentanyl, correct?

10 A. Yes.

11 Q. Let me ask you to look at Category 1-F, Surveillance,  
12 Evaluation and Leadership. Do you see that one?

13 A. Yes, I do.

14 Q. And this entails the collection of data on the opioid  
15 epidemic; is that right?

16 A. Among many other things, yes.

17 Q. And that's already being done in Cabell and Huntington,  
18 correct?

19 A. Again, I would be happy and, at some point, would  
20 request to be able to speak in a little bit more full  
21 fashion, you know, to provide a more -- a single more  
22 comprehensive response to these queries but, yes, some  
23 element to evaluation and leadership is currently being  
24 provided in Cabell County and the City of Huntington.

25 Q. And so, for instance, the Division of Addiction



1 Sciences is playing a role in that, correct?

2 **A.** At Marshall University?

3 **Q.** Yes.

4 **A.** Yes, I believe so.

5 **Q.** And Scott Lemley is also involved in those efforts,  
6 correct?

7 **A.** I would want to refresh my memory regarding the  
8 particular names of individuals.

9 **Q.** You are aware that the community has established an  
10 excellent foundation for data collection and surveillance,  
11 correct?

12 **A.** Well, I -- I think that there is a strong foundation,  
13 but I think there's a lot more work that remains to be done.

14 **Q.** Well, let me ask you the question again. Has the  
15 community established an excellent foundation for data  
16 collection and surveillance?

17 **A.** Again, my response would be that the community has a  
18 strong foundation and a lot more work needs to be done.

19 **Q.** Let me ask you to look at Category 2, please. We'll  
20 keep moving through this. This is under your heading for  
21 Treatment Supporting Individuals Affected By the Epidemic;  
22 is that right?

23 **A.** Yes.

24 **Q.** And your first item, Category 2-A, is connecting  
25 individuals to care. Do you see that?

1       **A.**    Yes.

2       **Q.**    And this entails programs to assist people with OUD in  
3       getting care and treatment, correct?

4       **A.**    Yes. And accessing care, yes.

5       **Q.**    And so, that would include things like help lines that  
6       would provide treatment options, transportation for them to  
7       get to treatment, and other -- and other services to connect  
8       people who have OUD to care, correct?

9       **A.**    Yes. And -- and maintain their engagement in care. I  
10      talked about relapse earlier today. And so, you know,  
11      things like peer recovery coaches and other supports that  
12      help people to maintain sobriety are important components of  
13      this.

14      **Q.**    And it would be intended for people who have OUD who  
15      would need those connections to care, correct?

16      **A.**    Yeah, although there's no reason that it couldn't also  
17      be used by people that were suicidal and thinking about  
18      ending their lives because of the trauma that they have  
19      experienced with family members that may have active  
20      addiction. There's no reason it couldn't be used by people  
21      that are using opioids non-medically but don't fulfill  
22      formal diagnostic criteria for opioid addiction. So, I  
23      guess I view the population that could benefit from this as  
24      larger than just the people with outright addiction.

25      **Q.**    But you have -- in terms of your modeling, you've

1 modeled this around the OUD population, correct?

2 **A.** Yes, I believe that's true.

3 **Q.** Let me ask about the next one, Category 2-B, Treating  
4 Opioid Use Disorder. This -- I think, you've discussed this  
5 before. Just to confirm, this entails the range of  
6 treatment options for people with OUD, correct?

7 **A.** Yes.

8 **Q.** And then, Category 2-C, Managing the Complications  
9 Attributable to the Epidemic, this relates to complications  
10 relating to IV drug use among people with OUD, correct?

11 **A.** Yes.

12 **Q.** And then the next one, Category 2-D, Workforce  
13 Expansion and Resiliency, this entails expanding the  
14 workforce of healthcare professionals needed to treat people  
15 with OUD or chronic pain, correct?

16 **A.** Yes. So -- or their family members or otherwise to  
17 address the epidemic. I mean, again, if you think about the  
18 need for social workers in the school system, they're not  
19 there necessarily to treat teenagers that have Opioid Use  
20 Disorder, although there may be such teenagers, but the  
21 workforce expansion is needed beyond the healthcare  
22 workforce to treat people with opioid addiction. My point  
23 is that this is a much bigger problem than just a problem of  
24 addiction alone.

25 **Q.** But this category, which is then modeled by Dr. -- or

1 used by Dr. Barrett to develop costs, this category is  
2 focusing on expanding the workforce of healthcare  
3 professionals, correct?

4 **A.** That's correct.

5 **Q.** And it would be healthcare professionals to treat  
6 people with OUD or other afflictions, correct?

7 **A.** Well, I -- it would be helpful. I mean, there are many  
8 pages, as you know, and thousands of cells and inputs to  
9 these -- to this model. So, it would be helpful for me to  
10 review this if you would like a definitive answer on which  
11 specific occupations are in or out of this category.

12 **Q.** But the general -- the general category covered by this  
13 -- I'm sorry -- the general group of people covered by this,  
14 this is to expand healthcare professionals in the workforce,  
15 correct?

16 **A.** It's to sure up the community workforce, the number of  
17 workers in the community that are recruited, and maintained,  
18 and taken care of, so that they can help to address the  
19 opioid epidemic. And I think that the majority, if not  
20 entirety of these, are in the healthcare space.

21 **Q.** Let me ask you to look at Category 2-E, Distributing  
22 Naloxone and Providing Training. This is one you discussed  
23 before, correct? It relates to the distribution of naloxone  
24 in the community, correct?

25 **A.** Yes, that's right.

1       **Q.**   And you're aware that the community has already been  
2       involved in extensive efforts to distribute naloxone in the  
3       community, correct?

4       **A.**   I'm aware and I've reviewed those programs carefully  
5       and I just want to reiterate briefly that the fact that  
6       there may be a -- some element of activity in one of these  
7       categories doesn't at all speak to whether or not that level  
8       of activity is adequate, adequate now, or adequate for the  
9       future.

10      **Q.**   Do you agree, Dr. Alexander, that there has been an  
11      extensive use of naloxone in the community?

12      **A.**   I believe there has and I believe it's saved many  
13      lives.

14      **Q.**   Let me ask you to look at Category 3, please, which is  
15      Recovery-Enhancing Public Safety and Reintegration. Do you  
16      see that one?

17      **A.**   Yes, I do.

18      **Q.**   And under the first one, 3-A, public safety, that  
19      focuses on enhancing police capabilities to address drug  
20      crime, correct?

21      **A.**   Yes. That's a topic that -- it was made very clear to  
22      me in speaking with individuals on the ground that that was  
23      important to them.

24      **Q.**   So, but it is -- just to be clear on what the category  
25      covers, it's expansion of police capabilities, correct?

1       **A.**     Yes.

2       **Q.**     Let me ask you to look at Category 3-B, the Criminal  
3       Justice System. That entails enhancing the Cabell drug  
4       court and other programs in the justice system; is that  
5       correct?

6       **A.**     Yes, including the -- increasing the availability of  
7       treatment for addiction within the criminal justice system  
8       because a large proportion of individuals with OUD or a  
9       significant proportion cycle in and out of the criminal  
10      justice system in a given year.

11      **Q.**     So, an example of that would be the LEAD program, for  
12      instance, correct?

13      **A.**     Yes, or people that are incarcerated and don't have  
14      access to FDA approved safe and effective treatment for  
15      addiction.

16      **Q.**     Let me ask you to look at Category 3-C, Vocational  
17      Training and Job Placement. Do you see that one?

18      **A.**     Yes, I do.

19      **Q.**     And that entails creating employment opportunities for  
20      people with OUD, correct?

21      **A.**     Yes, and supporting employers and the local economy  
22      simultaneously.

23      **Q.**     And then, Category 3-D, Reengineering the Workplace,  
24      that entails encouraging workplace opportunities for people  
25      with OUD or who are in recovery, correct?

1     **A.**    Yes.  Again, my conversations with experts on the  
2     ground underscore the importance of those sorts of  
3     initiatives.

4     **Q.**    Let me ask you to look at Category 3-E, Mental Health  
5     Counseling and Grief Support.  That entails expanding mental  
6     health services and grief support for individuals with OUD,  
7     families who have lost people to overdoses, and children  
8     affected by the epidemic, correct?

9     **A.**    Yes, it does.

10    **Q.**    Category 4 is our last one, Addressing Needs of Special  
11    Populations, and I believe you talked about this a little  
12    bit.  At a high level, these are special populations that  
13    are adversely affected by opioid use and misuse and by OUD,  
14    correct?

15    **A.**    Yes.

16    **Q.**    So, the first one, Category 4-A, Pregnant Women, New  
17    Mothers, and Infants, do you see that one?

18    **A.**    Uh-huh.

19    **Q.**    And that focuses on pregnant women with OUD and babies  
20    born with NAS, correct?

21    **A.**    Yes.

22    **Q.**    Category 4-B, Adolescents and Young Adults, that  
23    addresses the impact of opioid use, addiction and overdoses  
24    on children and adolescents, correct?

25    **A.**    Yes, including the ripple effects throughout families

1 and the intergenerational effects that I spoke to briefly  
2 earlier.

3 **Q.** And then you have one which may be related,  
4 Category 4-C, Families and Children. That entails programs  
5 to support orphans or other children that are adversely  
6 affected by OUD and overdoses, correct?

7 **A.** Well, and their families and loved ones.

8 **Q.** And you're aware that the State of West Virginia runs  
9 foster care and adoption services, correct?

10 **A.** I don't recall with certainty, but that sounds right to  
11 me.

12 **Q.** Let me ask you to look at Category 4-D, Homeless and  
13 Housing Insecure. Do you see that one?

14 **A.** Yes.

15 **Q.** And that focuses on individuals with OUD who are  
16 homeless or housing insecure, correct?

17 **A.** Yes, and it's vitally important. I was shocked at the  
18 rate of homelessness and housing insecurity among  
19 individuals with, in this instance, intravenous opioid use  
20 in the community. The numbers were quite surprising to me  
21 and very high.

22 **Q.** And then, Category 4-E, Individuals With Opioid Misuse,  
23 do you see that one?

24 **A.** Yes.

25 **Q.** And I believe you talked about this before, but that



1 focuses on individuals who misuse opioids, including heroin,  
2 or fentanyl, or prescription opioids who do not yet have  
3 OUD, correct?

4 **A.** Yes. I mean, I think most of what I've discussed in my  
5 expert report and would focus on is individuals with  
6 non-medical prescription opioid use, but -- but there may be  
7 individuals that use heroin or illicit fentanyl but don't  
8 fulfill formal diagnostic criteria for addiction.

9 **Q.** Dr. -- I'm sorry -- Mr. Barrett is going to take these  
10 categories and develop a total cost number, correct?

11 **A.** I don't know the details of what Mr. Barrett will do,  
12 but that's my general understanding.

13 **Q.** You've never talked to Mr. Barrett about what he does  
14 with what you've developed?

15 **A.** I have had -- I believe I've had a conversation or two  
16 with him and my understanding is that he's to develop a  
17 total cost estimate based on what I've proposed, but I don't  
18 -- I don't know the details of his methodology or approach.

19 **Q.** Let me ask you to turn to a new topic, please. I'd  
20 like to talk about the OUD population that you've discussed  
21 previously. Just to confirm, you start with an estimate of  
22 the OUD population in Cabell and Huntington from 2018; is  
23 that correct?

24 **A.** Yes.

25 **Q.** And that -- that number, that 2018 OUD estimate, was

1 developed by Dr. Katherine Keyes; is that right?

2 **A.** Yes, that's correct.

3 **Q.** And so, in other words, when Dr. Keyes provides that  
4 OUD estimate for 2018, those are people who have OUD as of  
5 2018, correct?

6 **A.** I believe that's the case.

7 **Q.** Is so, in other words, it would include people who use  
8 opioids such as heroin, or fentanyl, or misused prescription  
9 opioids and then developed OUD at sometime in the past, 2018  
10 or previously, correct?

11 **A.** Well, I believe it's an estimate of individuals with  
12 active Opioid Use Disorder in the community as of 2018.

13 **Q.** So, maybe I'm just misstating almost a truism. I think  
14 you used the word tautology before, but the truism that you  
15 -- these are people who had used opioids in the past and had  
16 developed OUD and active OUD as of 2018, correct?

17 **A.** Yes.

18 **Q.** And then -- so, your starting population is, therefore,  
19 based on the assumptions that Dr. Keyes applied in  
20 developing her OUD population of 8,252 people, correct?

21 **A.** Well, it's not just -- it's not as if she just handed  
22 off a number to me. I mean, I -- at the time that she was  
23 developing her estimates, I reviewed them and I reviewed her  
24 methodology and my team independently considered a number of  
25 alternative approaches. And I triangulated those with her.

1 And I had confidence at the time that her approach was  
2 methodologically sound.

3 **Q.** Is there anyplace in your report where you say you  
4 triangulated and tested what Dr. Keyes did in developing her  
5 OUD numbers? Is that stated anywhere in your report?

6 **A.** I don't recall the details of what I've stated in my  
7 report, but I -- I don't recall that specific statement, no.

8 **Q.** It's not stated in your report, is it?

9 MR. ACKERMAN: Objection, asked and answered.

10 MR. HESTER: I don't think so.

11 THE COURT: Overruled.

12 Can you answer the question?

13 THE WITNESS: It would be helpful to review my  
14 report. I mean, my report is, I don't know, 40, 60, 80  
15 pages. I don't know sitting here whether or not -- to what  
16 degree I spoke to the -- to my having vetted Dr. Keyes'  
17 estimate.

18 MR. HESTER: Let me give you your report.

19 MR. FARRELL: Judge, to hopefully save some time  
20 with the review, can I make an objection on relevance? I  
21 fail to see why it's relevant whether or not an answer  
22 elicited on cross examination is contained within his expert  
23 witness report.

24 MR. HESTER: Well, Your Honor, I think it's a  
25 quite important point because the witness had never

1 previously said that he had undertaken any check of what Dr.  
2 Keyes did. He had previously, as I understood it, testified  
3 that he was relying on what Dr. Keyes gave him.

4 THE COURT: And you're going to refresh him with  
5 it?

6 MR. HESTER: Yes. I thought I would refresh him.

7 May I approach, Your Honor?

8 THE COURT: Yes. If you saw your report, do you  
9 think you would remember?

10 THE WITNESS: Well, I would want to review it and  
11 I'm sensitive to your time, Your Honor, and everybody  
12 else's. I think the key thing to say here is that -- that I  
13 did speak with Dr. Keyes, that at the time that she was  
14 developing her estimates, I agreed with her approach and  
15 that -- and that I -- but I didn't do an -- you know, and  
16 that I and my team considered a number of different ways of  
17 estimating the population in the county and, ultimately, I  
18 used the approach that Dr. Keyes pursued.

19 MR. HESTER: I think that solves my problem, Your  
20 Honor.

21 THE COURT: I think it does, too.

22 BY MR. HESTER:

23 **Q.** But you did rely to start on the number that Dr. Keyes  
24 gave you, correct?

25 **A.** Well, yes. I used it in my report, so in that sense,

1 yes, I did. I did use her estimate in my report.

2 **Q.** And so, if the estimate provided by Dr. Keyes of the  
3 starting OUD population is too high, then the population  
4 numbers in your redress model would also be too high,  
5 correct?

6 **A.** Yes. And if those numbers are too low, then the  
7 population numbers would be too low. I mean, there is a  
8 possibility of either, but the point is that I and my team  
9 carefully reviewed different methods of estimating the  
10 population and the county and ultimately -- and that  
11 included reviewing with Dr. Keyes her approach and,  
12 ultimately, I'm confident that the approach that was used  
13 was a valid approach that reflects the practices of  
14 epidemiology.

15 **Q.** But it -- but let me just confirm my point though. If  
16 the number from Dr. Keyes is too high, then the OUD numbers  
17 on which you rely in the redress model are also too high,  
18 correct?

19 MR. ACKERMAN: Objection. Asked and answered.

20 THE COURT: Overruled.

21 THE WITNESS: If they're too high, then the  
22 numbers I relied upon are too high. And if they're too low,  
23 then the numbers that I relied upon are too low.

24 BY MR. HESTER:

25 **Q.** And under your model, the starting OUD population from

1 Dr. Keyes does not remain constant over the 15 years,  
2 correct?

3 **A.** That's correct.

4 **Q.** And some people leave the OUD population, perhaps from  
5 overdose, perhaps from some completely unrelated cause of  
6 death, perhaps they move away from Cabell Huntington,  
7 correct? But it's not going to be a static population over  
8 time, correct?

9 **A.** Yes. It's a dynamic population.

10 **Q.** And you also assume that there are new people who  
11 develop OUD over the 15-year period covered by your redress  
12 model in addition to your starting population, correct?

13 **A.** Yes.

14 **Q.** And just to be clear on the -- on the numbers, Dr.  
15 Keyes gave a number of 8,225 people. The first year in your  
16 redress model is 7,882. That's the start of the scaling  
17 down of the OUD population, correct?

18 **A.** Correct.

19 **Q.** But you're assuming that new people will develop OUD  
20 during the 15-year period and that starting population in  
21 your redress model of 7,882 does not stay static, correct?

22 **A.** Well, the individual people are not necessarily the  
23 same people. I mean, there are people, just like if you  
24 looked at all smokers today and took everybody with lung  
25 cancer, there's a group that has lung cancer now and there's

1 a group that's going to develop lung cancer in three or  
2 five years.

3 So, if I was addressing the lung cancer problem, I  
4 would want to design policies that account for the fact that  
5 some people will develop lung cancer in the future.

6 The analogy here is, as one example, there are  
7 individuals on chronic high dose prescription opioids now  
8 that may not yet have developed opioid addiction, but will  
9 by 2024. So, my plan accounts for that.

10 **Q.** And let's just make this concrete.

11 MR. HESTER: If we could put up Tab 2-B of the --  
12 of Dr. Alexander's redress model. It's the model itself,  
13 Chris.

14 BY MR. HESTER:

15 **Q.** And if you can go to Tab 2-B, Dr. Alexander, this is  
16 not meant to be an eye test, but here's this -- this top  
17 line is the OUD population over time, correct?

18 **A.** Yes.

19 **Q.** And so, your point is that there's some people in that  
20 OUD population who come in and out and you're going to have  
21 new people coming into that top line population, correct?

22 **A.** Yes.

23 **Q.** And that might include -- just as an example, that  
24 could include a child who is ten years old as of 2021 and  
25 has never used opioids begins abusing heroin in 2027 as a

1 teenager and develops OUD. That -- that child would be  
2 included in your OUD numbers, correct?

3 **A.** It would, as would someone who is living a happy,  
4 healthy life in recovery now in treatment from prescription  
5 Opioid Use Disorder who relapses. So, there are any number  
6 of scenarios that might land someone in need of treatment in  
7 2024.

8 **Q.** So -- so, maybe to go to the generality of the point,  
9 you can have people who newly develop OUD in the future for  
10 all sorts of reasons and who join the population, you could  
11 also have people who drop out of the population, and the top  
12 line that we're showing there in the model is the net of  
13 those two, correct?

14 **A.** It is. There's one opioid epidemic. I mean, there's a  
15 lot of dynamics of different directions that people may  
16 develop harms and experience harms and, you know, move  
17 towards recovery and then backslide, but it's one opioid  
18 epidemic. And so, my plan addresses that.

19 **Q.** Now, I'm trying to just nail down the methodology and  
20 the methodology is when we look at this top line, when we  
21 look at the OUD population in your redress model, what we're  
22 looking at is a net of people who go out of the OUD  
23 population and new people who come in, correct?

24 **A.** Yes.

25 **Q.** And in other settings you have looked at or projected



1 the population of individuals who would newly be joining the  
2 OUD population, but you were not asked to do so here,  
3 correct?

4 **A.** Yes, that's correct.

5 **Q.** So, you've not estimated how many people would develop  
6 OUD each year during the period covered by your model,  
7 correct?

8 **A.** Right. I've not -- I've not estimated the proportions  
9 that are developing opioid addiction anew in each subsequent  
10 year.

11 **Q.** So, let's again go back and if I could look at 2035.  
12 If we look at this number for 2035 of an OUD population of  
13 4,143, we don't know how many people in that population  
14 newly developed OUD during the 15 years, as compared to  
15 having OUD as of 2018? We don't know that, correct?

16 **A.** Well, it's a number that could be derived, but I,  
17 sitting here today, could not provide you with such a  
18 number.

19 **Q.** And you were not asked to do that in this case,  
20 correct?

21 **A.** Correct.

22 **Q.** So, there's no way to separate out the group that has  
23 newly developed OUD after 2021, as compared to the group  
24 that had OUD as of 2021? That hasn't been done in this  
25 case?

1     **A.**    It hasn't because I focused on abating the overall  
2     opioid epidemic and, for that purpose, such a separation or  
3     sort of distinction of one population versus another is --  
4     is, in some sense, immaterial. It's not necessary from a  
5     public health and public policy perspective.

6     **Q.**    I'm not trying to be very cosmic. I'm being pretty  
7     narrow on the methodology. And in terms of the methodology,  
8     you have not separated out in any of these years the people  
9     who have newly developed OUD during the 15-year period as  
10    contrasted with the people who had OUD at the start of the  
11    15 years? You have not done that, correct?

12    **A.**    Yes, correct.

13    **Q.**    So, we've been looking quite a bit at this -- at this  
14    line for the treatment population, but other aspects of your  
15    plan also assume that people will use opioids and develop  
16    OUD in the future, correct?

17    **A.**    Can you be more specific, please?

18    **Q.**    Sure. Let me try. So, one of the categories in your  
19    plan is 4-A, for pregnant women, new mothers and infants.  
20    And so, that is covering infants who develop NAS during  
21    gestation, correct?

22    **A.**    Well, it's covering pregnant mothers and the infants.

23    **Q.**    Right.

24    **A.**    But the children would -- yes, the children would be --  
25    the neonates would be infants that are born impacted by

1 Neonatal Abstinence Syndrome.

2 **Q.** So, that could well include a baby who was born to a  
3 mother who didn't have OUD as of 2018 or 2021, but begins  
4 using opioids at some later time, delivers a baby, and that  
5 baby has NAS, correct?

6 **A.** Yes, it could. I mean, I think that mother and that  
7 baby are just as entitled to services and treatment as any  
8 other. And so, what I've focused on is developing a plan  
9 that would allow for them to be treated such that, in  
10 15 years, we could have the amount of harms occurring in the  
11 community.

12 **Q.** But I'm not debating the merits. I'm just trying to  
13 understand the method. And the method includes mothers who  
14 develop OUD later, after 2021, and who give birth to a baby  
15 after 2021 and the mother and that baby are both treated  
16 within this plan even though the mother did not have OUD as  
17 of 2021, correct?

18 **A.** Yes.

19 **Q.** And you don't know what percentage of the NAS babies or  
20 the mothers encompassed within that part of your plan are --  
21 will be born to mothers who have OUD as of 2021 as compared  
22 to mothers who develop OUD later? You just haven't -- you  
23 haven't done that analysis, correct?

24 **A.** Well, I don't know if I've done the analysis, but I've  
25 not done it and submitted it as part of my report for this

1 case.

2 **Q.** Your plan also provides for early intervention, special  
3 education and psychosocial treatment for children going  
4 forward after they're born with NAS, correct?

5 **A.** Yes.

6 **Q.** And, again, so that could include a child born to a  
7 mother who does not have OUD today, but develops it at some  
8 later time from using opioids, correct?

9 **A.** Yes. I mean, you know, my -- my discussions with  
10 experts on the ground and my review of the materials  
11 suggests that there is no shortage of people that are  
12 currently in need of services within the community, but  
13 you're correct that I didn't net out or try to disaggregate  
14 rather, you know, looking forward nine years from now, what  
15 proportion of people nine years from now have opioid  
16 addiction that developed after, you know, June, 2021.

17 **Q.** So, let's go -- let's go back to the treatment section  
18 of your report, Tab 2-B, and you discussed on your direct  
19 examination that you're starting with a population of 7,882.  
20 That's the OUD population, correct?

21 **A.** Yes.

22 **Q.** And then, you're assuming -- and you discussed this  
23 this morning. You're assuming that 40 percent of them  
24 receive treatment for OUD in that first year, correct?

25 **A.** Yes.

1       **Q.**   And that would be a net of 3,153 people from that OUD  
2       population of 7,882, correct?

3       **A.**   Yes.

4       **Q.**   And of those, you're modeling that a population of  
5       2,049 will receive outpatient initiated care, correct?

6       **A.**   Well, 2,049 will -- I'm developing population level  
7       estimates, you know, at a community level for the amount of  
8       care that should take place in each of these four levels.  
9       And so, I assume to derive those estimates that 2,049 would  
10      begin with outpatient care.

11      **Q.**   And so, you are focusing on the number of individuals  
12      who receive that level of care, correct?

13      **A.**   Yes, although some of the groups in the -- the Rows 5  
14      through 7, that are enumerated 5 through 7 here, will also  
15      ultimately receive some outpatient care, as well.

16      **Q.**   And so, but let's just focus on that outpatient line  
17      for a minute. So, the cost for treatment for that  
18      outpatient line in your model are calculated by multiplying  
19      the daily cost, which I believe you have developed, for each  
20      person receiving treatment by 365 days; is that correct?

21      **A.**   Yes. So, what I'm trying to do here is estimate the  
22      total number of outpatient treatment slots. So, I think  
23      it's helpful maybe to think of these as slots rather than  
24      individual people.

25      **Q.**   Although your document refers to individuals, correct?

1     **A.**   Well, it does, and -- and we can toggle back and forth  
2     between people and slots, but I just want to highlight the  
3     fact that my ultimate goal is to calculate treatment  
4     capacity and that doesn't mandate that it's the same, you  
5     know, individual 32-year-old woman that's in that treatment  
6     slot over an entire year.

7     **Q.**   Fair enough.  So -- so, you're not assuming that the  
8     same individuals in that 2,049 are going to receive 365 days  
9     of treatment, correct?

10    **A.**   Yes, correct.

11    **Q.**   So, some number of people may still stay in treatment  
12    the next year in the outpatient category, correct?

13    **A.**   There are many different patterns.  I said this morning  
14    there is not a one-size-fits-all approach.  Some stay in  
15    treatment a short time, some a long time, but I do include  
16    here recommendations and in my expert report and underscore  
17    that, unfortunately, historically treatment has been shorter  
18    than is recommended by many professional societies.

19    **Q.**   And your assumption is that the outpatient care for  
20    that first category, that 2,049 category that you've got  
21    listed there, your assumption is it would be 365 days of  
22    treatment, correct?

23    **A.**   It's not an assumption about individual people.  What I  
24    do is -- is I use that number in order to begin to estimate  
25    the overall treatment capacity that's needed in the

1 outpatient setting.

2 **Q.** But let me just be clear. You are assuming 365 days  
3 for that category of 2,049, correct?

4 **A.** I'm using that number of individuals and -- and  
5 knowledge of what the overall treatment goal is of  
6 40 percent and the distribution of people across levels of  
7 care to try to estimate how much treatment is needed in the  
8 outpatient rather than, for example, residential rehab or  
9 inpatient setting.

10 MR. HESTER: So, let's just scroll down here a  
11 little further. If I could scroll down a little further.  
12 Keep going. These spreadsheets are hard to work with. Keep  
13 going.

14 BY MR. HESTER:

15 **Q.** Down at the bottom there's a cost description and  
16 there's an average daily cost for outpatient initiated care  
17 times 365 days, correct?

18 **A.** Yes.

19 **Q.** So, the assumption you're making to come up with cost  
20 number is that there would be 365 days of treatment for that  
21 population that's included in outpatient, correct?

22 **A.** Right, for those treatment slots. So, you can think of  
23 it as if there's 249, you know, places or people, but it  
24 doesn't have to be the same person, and I multiply that  
25 times 365 in order to identify for that year how many

1 outpatient treatment days are required.

2 **Q.** So, let's assume -- and I want you to assume this with  
3 me. Let's assume that 80 percent of the people who receive  
4 the outpatient treatment enter remission after one year.  
5 So, I'm sorry. All of the treatment. So, I want to assume,  
6 if we can go back now to the top of this 2-B, and you've got  
7 this population of 3,153, do you see that?

8 **A.** Yes.

9 **Q.** And I want to assume that 80 percent of them enter  
10 remission after a year. So, 80 percent of the 3,153. And  
11 if we did -- if we make that assumption, that comes out to  
12 about 3,000 people who would receive treatment in that first  
13 year who enter remission, correct?

14 **A.** You're saying --

15 **Q.** No, I'm sorry. It would be 80 percent of the 3,153, so  
16 it would be about 2,500 people who would enter remission  
17 after one year?

18 **A.** Well, if you're asking whether 80 percent of 3,153 is  
19 2,500-something, I would want to, you know, run the numbers  
20 to be sure, but it sounds about right.

21 **Q.** Yeah. I mean, I can give you the numbers. We probably  
22 -- we don't need that level of precision, but it's .8 times  
23 3,153 comes out to 2,522. Does that sound about right?

24 **A.** Sure.

25 **Q.** And so, and if you look over at your next column for



1 2022, you show again 3,000 people roughly. So, again, if we  
2 apply the 80 percent assumption of remission, that would be  
3 another 2,500 people who would be in remission after a year,  
4 after that second year, correct?

5 **A.** Well, I don't -- I don't necessarily agree with the  
6 assumption. I mean, I'm not sure of the basis for the  
7 assumption.

8 **Q.** I'm asking you to assume. I'm asking you to assume.  
9 I'm not asking you to agree with my assumption. I'm asking  
10 you to assume that 80 percent of people who get treatment go  
11 into remission after a year.

12 **A.** I -- I'm -- okay.

13 **Q.** So, if we assume that, after year one, we've got a  
14 group of 2,500 who go into remission. We have another group  
15 of 2,500 that goes into remission after the second year.  
16 Keep going over. We'd have another group of 2,500 in  
17 remission after the third year, and another group in  
18 remission of 2,500 after the fourth year, right? If we  
19 assumed an 80 percent remission --

20 **A.** If you would assume that this was a static population,  
21 but we talked about the fact that this was a dynamic  
22 population. You're not starting with 3,153 people and  
23 putting them in an arena and never letting people in and  
24 never letting people out. And, frankly, the assumption that  
25 80 percent of people are fixed or treated or sort of done

1 after a year is also something that I have a hard time  
2 accepting.

3 **Q.** I'm asking you to assume, Dr. Alexander. This is the  
4 beauty of cross examination, is we get a chance to give you  
5 an assumption to test your method. And I'm asking you to  
6 assume that. And I'm saying that if we go through four  
7 years of this, we would have a population of 10,000 in  
8 remission, correct?

9 **A.** I mean, using your model, if you assume a closed  
10 system, which you appear to be implying, you wouldn't have  
11 any more people with addiction in Cabell County. I mean,  
12 the entire problem would be licked.

13 **Q.** And your point is that people are coming in and out of  
14 this population and you haven't estimated how many, correct?

15 **A.** Yes, among other things. I mean, I would want to think  
16 carefully. This modeling of the epidemic is based on a lot  
17 of different dynamics. And the types of epidemiologic  
18 modeling that we do have dozens -- sometimes, you know,  
19 there may be more than a hundred different perimeters that  
20 affect the flow of populations into different compartments.  
21 So, I just have a hard time. It seems a little simplistic  
22 to imagine that this is a closed population, which it's not,  
23 and that we're just pulling people out because suddenly,  
24 after one year, 80 percent are sort of fixed or treated.

25 **Q.** I'm trying to actually get at a different question,

1 which is I'm trying to get to a sense that it does imply if  
2 you look -- if you assume an 80 percent remission after --  
3 after three or four years, it's going to be -- the group in  
4 remission would be larger than the individuals who started  
5 with OUD, correct? It would be four times 2,500. It would  
6 be 10,000 people, correct?

7 **A.** I'm not aware of anybody -- I mean, we're back to the  
8 assumption because I'm not aware of recommendations that  
9 people only receive treatment for one year. So --

10 **Q.** I'm asking to you assume remission after one year, 80  
11 percent.

12 **A.** Okay.

13 **Q.** I'm asking you to assume that, Dr. Alexander. I know  
14 you've made your point.

15 **A.** Okay.

16 **Q.** But if you assume that, the point is that there must be  
17 a number of new people coming into this population if there  
18 -- if you assume 80 percent remission, it suggests that  
19 there must be new people coming in at a substantial number?  
20 There must be a substantial number of new people coming into  
21 the population, correct?

22 **A.** So, if you -- if you assume what you've asked me to  
23 assume and you hold everything else constant, including all  
24 of the numbers in this spreadsheet, I could only -- I could  
25 only conclude that there are many new people coming in if we

1 hold all else constant in this hypothetical example.

2 **Q.** And so, furthermore, if we hold -- if we continue with  
3 80 percent remission assumption, it would suggest over an  
4 11-year future something like 25,000 new people with OUD  
5 coming in after 2021, correct?

6 **A.** Again, I would typically, with this sort of question,  
7 would spend much more time thinking through the matters and  
8 reviewing the numbers and, you know, considering the  
9 dimensions of the question, but I believe that applying your  
10 assumption and sitting here as I do today, expressing that I  
11 would typically take longer to think through these matters,  
12 if you hold all else constant about this spreadsheet and you  
13 assume that people are being successfully treated at the  
14 rate that you suggest, and that it's a closed system, which  
15 I have said that it's not, I believe that it would imply --  
16 well, the people would have to be coming from somewhere, so  
17 it would have to be that there are new people that are  
18 being, you know, choppered into the arena, to use my  
19 metaphor.

20 **Q.** Well, but it would imply, in other words, something  
21 like 24,000 new people coming in with OUD over the period  
22 covered by the plan, correct?

23 **A.** Again, I would -- without having had the opportunity to  
24 consider the matters in much more detail, I believe that it  
25 would imply many more new people with Opioid Use Disorder.

1 Q. And then, if you use my 80 percent assumption, it would  
2 be in the range of 24,000 new people, correct?

3 MR. ACKERMAN: Objection, Your Honor. This is now  
4 the fourth or fifth time on this question and I think that  
5 the witness has answered it.

6 MR. HESTER: Okay.

7 BY MR. HESTER:

8 Q. We've discussed that your plan assumes that 3,153  
9 people received treatment in the first year, correct?

10 A. Yes.

11 Q. And you provided for four differing levels of  
12 treatment, but the vast majority are in that regular  
13 outpatient bucket, right?

14 A. Yes. I mean, it's not -- I don't know that I would  
15 characterize it as regular, but it's, yes, outpatient care.

16 Q. And then, for the group of people who receive intensive  
17 outpatient treatment, you've assumed -- well, let me be  
18 clear again. You've assumed 365 days of treatment for that  
19 population of 2,049, correct?

20 A. Well, yes. In order to estimate the treatment slots in  
21 outpatient care, I multiplied 2,049 times 365.

22 Q. And you also have a group of 725 that will receive  
23 90 days of intensive outpatient treatment and, for that  
24 population, you've assumed 2,075 days of regular outpatient  
25 treatment, correct?

1       **A.**     Correct, a much smaller proportion that I suggest,  
2       again, in intensive outpatient care.

3       **Q.**     And the population that's in the rehab and residential  
4       treatment group and the inpatient groups, you've assumed  
5       245 days of regular outpatient care a year in addition to  
6       those higher levels of treatment, correct?

7       **A.**     I believe that's correct. And, again, these  
8       populations represent even smaller proportions of the  
9       overall group, approximately 10 percent and 2 percent  
10      respectively.

11               THE COURT: If you're at a stopping place --

12               MR. HESTER: This is a good stopping point.

13               THE COURT: We'll take about a ten-minute break.  
14      You can step down.

15               THE WITNESS: Thank you.

16               (Recess taken)

17               (Proceedings resumed at 3:38 p.m. as follows:)

18               THE COURT: Dr. Alexander, you may resume the  
19      stand, sir.

20               THE WITNESS: Thank you.

21               MR. HESTER: Your Honor, may I approach?

22               THE COURT: Yes, you may.

23      BY MR. HESTER:

24       **Q.**     Dr. Alexander, we've handed you what's been marked  
25      as MC-WV-2162 which is excerpts from the 2018 TEDS

1 dataset. Do you see that?

2 **A.** Yes, I do.

3 **Q.** And TEDS was one of the datasets you referred to in  
4 your direct examination as something that you relied on;  
5 correct?

6 **A.** Yes.

7 **Q.** And this is a TEDS episode dataset from 2018; correct?

8 **A.** Yes, it appears to be.

9 **Q.** And I believe you said this before, but TEDS is put  
10 together by the Department of Health and Human Services  
11 Substance Abuse and Mental Health Services Administration;  
12 correct?

13 **A.** Yes.

14 **Q.** That's commonly known as SAMHSA?

15 **A.** Yes.

16 **Q.** And TEDS data collects national and state level data  
17 for admissions and discharges each year for people receiving  
18 substance use disorder; correct?

19 **A.** Yes.

20 **Q.** And if I could ask you to turn, please, to Page 79 of  
21 the document. And you can use for this purpose the numbers  
22 at the bottom left.

23 And this is discussing the median length of stay by  
24 type of service -- treatment service and reason for  
25 discharge. Do you see that?

1       **A.**     Just one minute, please.

2             (Pause)

3             Yes, I do.

4       **Q.**     And, so, this reflects that the median stay to complete  
5             treatment was 143 days for outpatient medication assisted  
6             therapy; correct?

7       **A.**     Yes. That -- that's right for, for discharges that  
8             completed treatment, the median length of stay was 143 days.

9       **Q.**     And the median stay to complete intensive outpatient  
10            treatment was 82 days; correct?

11       **A.**     Yes, I believe so.

12       **Q.**     And this is reflecting data or experience from 2018;  
13            correct?

14       **A.**     Yes, complete with all the potential inadequacies and  
15            shortcomings of our treatment system and the treatment  
16            infrastructure in 2018.

17       **Q.**     And then it reflects also on the same page that the  
18            median length of stay to complete treatment was 71 days for  
19            regular outpatient treatment; correct?

20       **A.**     Yeah. I mean, I, I would want to review this in more  
21            detail to discern what, quote/unquote, regular -- and those  
22            quotes are mine, of course -- but what regular outpatient  
23            treatment is compared to outpatient medication assisted  
24            opioid therapy. But, but, yes, I see the 71 days.

25       **Q.**     And I, I probably inserted the word "regular." It says



1 71 days for outpatient treatment; correct?

2 **A.** Yes.

3 **Q.** And that would be the median length of stay for  
4 completing that treatment; correct?

5 **A.** I read this -- again, typically -- I mean, this is a  
6 seven-year, 80-page document. And, typically, I would  
7 review it in much more detail. But as I sit here today, I  
8 read this as stating that the median length of stay among  
9 discharges from treatment facilities that were included  
10 parenthetically in the TEDS sample that completed treatment  
11 was 71 days for outpatient treatment.

12 **Q.** And your assumption of your model is 365 days for  
13 outpatient treatment; correct?

14 **A.** No, that, that's -- I mean, when I estimate treatment  
15 capacity at a population level, I'm not assuming something  
16 or, or assigning a certain duration for any particular  
17 individual.

18 **Q.** But for the population in outpatient treatment, you're  
19 assuming 365 days of treatment; correct?

20 **A.** Well, I believe I include recommendations from the  
21 American Society of Addiction Medicine that recommend one  
22 year of treatment for individuals with, with, with opioid  
23 use disorder in ambulatory settings. But there's not a  
24 one-size-fits-all approach here.

25 **Q.** You also are estimating that the other treatment levels

1 that you include in your plan will provide for 245 to 275  
2 days of outpatient care in addition to the higher levels of  
3 care that that population receives; correct?

4 **A.** Again, we're back to the matter -- and I know we  
5 discussed this during deposition -- but these are treatment  
6 slots, not individual people. So I'm estimating treatment  
7 capacity.

8 And in my report, I highlight -- or in the redress  
9 models I highlight what I believe are evidence-based  
10 recommendations about how long treatment should be. And,  
11 parenthetically, those lengths are much longer than the  
12 median lengths in the TEDS data in 2018.

13 **Q.** The treatment capacity or the slots would be  
14 meaningfully different under your plan if you assume, for  
15 instance, 71 days for outpatient treatment; correct?

16 **A.** It, it would. But, again, the 71 days reflects all of  
17 the inadequacies and shortcomings of our treatment system in  
18 2018. I mean, I, I don't know -- I haven't encountered many  
19 clinical experts, of which I interact with many, that  
20 suggest that 71 days is kind of one and done for someone  
21 that has opioid addiction. It's a lifelong disorder. And  
22 people, especially people that have active addiction need  
23 long-term treatment.

24 **Q.** But 71 days is what actually happened in 2018; correct?

25 **A.** Within the sample -- I mean, I talked this morning

1 about reliability of datasets. And, you know, I -- you  
2 know, we'll just say briefly that datasets are fit for  
3 purpose and that the, this type of data and this type of  
4 statistic has to be interpreted with careful understanding  
5 of the sample and how the information was derived.

6 **Q.** Let me ask you to switch topics a little bit.

7 In your slides this morning you highlighted a  
8 50 percent reduction in the OUD population over 15 years  
9 from roughly 8,000 to roughly 4,000; correct?

10 **A.** Yes.

11 **Q.** And you also predict a 50 percent reduction over 15  
12 years in the number of deaths related to opioid overdoses;  
13 correct?

14 **A.** Yes.

15 **Q.** Are you aware, Dr. Alexander, that in 2017 Cabell  
16 County had 1,831 suspected overdoses?

17 **A.** I've looked carefully at the statistics. Sitting here  
18 as I do today at this moment, I'm not aware of the precise  
19 number.

20 **Q.** That's, that's totally fair. Let me, let me get you  
21 the exhibit so I don't just play a memory game with you.

22 MR. HESTER: May I approach, Your Honor?

23 THE WITNESS: Thank you.

24 BY MR. HESTER:

25 **Q.** So, Dr. Alexander, we've handed you MC-WV-2099.

1 MR. HESTER: Your Honor, this has been admitted  
2 into evidence already.

3 THE COURT: All right.

4 BY MR. HESTER:

5 Q. Dr. Alexander, have you seen this document before?

6 A. No, I do not recall having seen this document.

7 Q. And we've also handed you MC-WV-2100. Do you see that?

8 A. Yes, I do.

9 Q. And, so, if you, if you use the numbers in these two  
10 documents --

11 MR. HESTER: And, Your Honor, I should clarify  
12 2100 has also been admitted into evidence.

13 THE COURT: All right.

14 BY MR. HESTER:

15 Q. These documents reflect 1,831 suspected overdoses  
16 in 2017; correct?

17 A. Yes, I believe so.

18 Q. And in 2018 it reflects 1,089 suspected overdoses;  
19 correct?

20 A. Yes. I presume from the titles and the language that  
21 these are people that are transported by EMS as suspected  
22 overdose. So I don't know -- would this include individuals  
23 in the field that are never transported to a hospital?

24 Q. Do you know Connie Priddy? You spoke with her I  
25 believe.

1       **A.**   Well, I don't know what you mean by "know," but I  
2       believe I did speak with her, yes.

3       **Q.**   You know who she is?

4       **A.**   I, I spoke with 17 to 18 experts, I believe, or more.  
5       And I would request to refresh my memory regarding her  
6       precise --

7       **Q.**   I'll see if this refreshes your memory. Do you recall  
8       that she's involved in transportation and emergency services  
9       in Cabell County?

10      **A.**   I -- sitting here as I, I am today, I'm not -- I don't  
11      recall with certainty that's the case.

12      **Q.**   Let's, let's just -- I'll ask you to accept these  
13      numbers for purposes of these questions.

14             So if you accept these numbers, if you look over at the  
15      2019 listing, it shows 878 suspected overdoses; is that  
16      correct?

17      **A.**   Yes. But I would request to know what the numbers  
18      represent.

19      **Q.**   I believe it reflects suspected overdoses on emergency  
20      runs. I believe that's correct.

21      **A.**   And, so, would it include people who are in the field,  
22      someone that refuses transport and is in their home and  
23      never goes to EMS?

24      **Q.**   I, I can -- we'll work off of what Ms. Priddy testified  
25      to as to these. I'll just ask you to take these numbers at

1 face.

2 **A.** Okay.

3 **Q.** And, so, if we look at these numbers, this reflects  
4 that suspected overdoses in Cabell County decreased by  
5 nearly 50 percent from 2017 to 2019; correct?

6 **A.** Yes, whatever these numbers represent, the numbers do  
7 appear to be about half as large in 2019 as 2017.

8 **Q.** Let me ask you to look also at the, the overdose  
9 statistics. No, I'm sorry. If you look at Exhibit 2100  
10 again -- I'm sorry. Let me, let me move on to another  
11 document then. Let me ask you to look at 2243.

12 MR. HESTER: Your Honor, may I approach?

13 BY MR. HESTER:

14 **Q.** I've got three for you this time.

15 Dr. Alexander, we've handed you three documents taken  
16 from the West Virginia DHHR overdose dashboard: 12243,  
17 MC-WV-2243 for 2017; for 2018 MC-WV-2239; and for 2019  
18 MC-WV-2240. Do you see that?

19 **A.** Yes, I do.

20 **Q.** And the West Virginia DHHR statistics are another data  
21 source you consulted; correct?

22 **A.** Yes.

23 **Q.** And if you look at these data sources, you can see it  
24 lists 182 opioid-related overdose deaths in Cabell County in  
25 2017; correct?

1       **A.**    I'm sorry. Which of the three documents?

2       **Q.**    I'm sorry. Start with the 2017. So that would be  
3       2243.

4       **A.**    Okay, 2243. Yes, I do see the 182. I see it on --  
5       yes, I see it.

6       **Q.**    And then if you look at 2239, it shows 137  
7       opioid-related overdose deaths in Cabell County in 2018;  
8       correct?

9       **A.**    Yes.

10      **Q.**    And in 2019 if you look at 2240, it shows 97  
11      opioid-related overdose deaths in Cabell County in 2019;  
12      correct?

13      **A.**    Yes.

14      **Q.**    So that would reflect from 2017 to 2019 a 46.7 percent  
15      decrease in opioid-related overdose deaths in Cabell County;  
16      correct?

17      **A.**    Well, I haven't done the math. I think it would  
18      reflect an important reduction, although I believe in 2020  
19      there's been an uptick again. So the trend has reversed and  
20      is now increasing.

21      **Q.**    But I wanted to be focused on this time period,  
22      two-year time period, roughly a reduction of 50 percent in  
23      over -- in opioid-related overdose deaths; correct?

24      **A.**    Yes, I believe so.

25      **Q.**    Dr. Alexander, I wanted to focus on another aspect of

1 your report.

2 You spoke about your trend ratio in your testimony this  
3 morning. And your, your abatement plan relies on this trend  
4 ratio to develop an expected reduction in the relevant  
5 populations based on the implementation of the plan;  
6 correct?

7 **A.** Yes.

8 **Q.** And, so, you apply this trend ratio across a number of  
9 different populations in your plan; correct?

10 **A.** Yes.

11 **Q.** For example, you apply the trend ratio to the number of  
12 individuals with OUD in the Cabell/Huntington community to  
13 reflect a decrease in the size of the population over time  
14 that the abatement plan is implemented; correct?

15 **A.** Yes, I do.

16 **Q.** And, so, if we could go back again to Tab 2B in the, in  
17 the plan document. Let's just illustrate this.

18 So at the bottom of this page you have the population  
19 trend ratio and it starts at .96; correct?

20 **A.** Yes.

21 **Q.** And, so, we've talked before about Dr. Keyes' estimate  
22 of 8,225 people. And the way that you get to the starting  
23 population in 2021 is using the trend ratio, the number of  
24 .96; correct?

25 **A.** Yes.



1 Q. And then if we show the whole trend ratio over time,  
2 the trend ratio goes from .96 to .50. And that then in turn  
3 is the basis by which the OUD population trends down over  
4 the 15 years; correct?

5 A. Yes.

6 Q. And the trend ratio applies to a number of the  
7 different categories in the plan; correct?

8 A. Yes, it does.

9 Q. So as another example, one element of your plan  
10 proposes support for children living with parents with OUD.

11 And to estimate the number of children living with  
12 parents with OUD, you begin with a starting population of  
13 1,620. Is that right? If we could go -- that would be --  
14 I'll try to point you in the right direction, Dr. Alexander.

15 That would be families and children. And here you  
16 start off with a number of children living with parents with  
17 OUD of 1,547; correct?

18 A. Yes.

19 Q. And the trend ratio is applied there to reduce the  
20 number of children living with parents with OUD; correct?

21 A. Yeah. I mean, it reflects the reduction in the number  
22 of children, yes.

23 Q. So putting it another way, as the OUD population  
24 declines, then some of these other categories also decline  
25 pursuant to the trend ratio because there's fewer people

1 living with parents with OUD?

2 **A.** That's right.

3 **Q.** And you also used this, this OUD population for a  
4 number of the other programs. For instance, the number of  
5 people who need vocational training and job placement  
6 services is based on the OUD population and the decline in  
7 that population over the 15 years; correct?

8 **A.** Yes, I believe so.

9 **Q.** And you also applied this trend ratio to populations  
10 other than just the number of people with opioid use  
11 disorder. For instance, let me ask you an example.

12 The number of children that may need foster support  
13 services because you assume that the need will decrease as  
14 the OUD level decreases; correct?

15 **A.** I think that's the case, although to be sure, I would  
16 prefer to see the, see the data. But, but I'm, I'm -- I  
17 believe that's the case.

18 **Q.** Let's go to the first page again, the category listing  
19 for your plan. So that's the summary tab.

20 This is the category list that we worked through  
21 before, Dr. Alexander. Do you see that?

22 **A.** Yes, I do.

23 **Q.** And as I looked at your work papers, I believe it's  
24 correct that every category in the plan relies on the trend  
25 ratio except for 1A, 1B, 1C, 1D, 1F, 3A, and 3D. In other

1 words, if you take those out, I believe the trend ratio  
2 applies to all of the rest of the categories. Is that  
3 accurate?

4 **A.** I, I -- sitting here as I am today, I can't answer that  
5 question, although Table 1, which must be on maybe the next  
6 tab, does list the particular trend ratios and the instances  
7 in which they're applied.

8 So I think that would be a place where one could review  
9 the, you know, the assertion that you made. But, but  
10 that -- I would want to review that table to be sure.

11 **Q.** Well, the problem with Table 1 is it includes some  
12 target populations that are also going to be based on the  
13 trend ratio; correct?

14 **A.** Well, I don't know if that's a problem but, yes, it  
15 does.

16 **Q.** I -- problem just in answering my question simply. I  
17 was trying to find a simple way to answer the point.

18 And the point is simply to confirm that with, with the  
19 exception of a number of these categories in Number 1 that I  
20 listed, and with the exception of Category 3A and 3D, your  
21 trend ratio applies to the other categories?

22 **A.** I believe that it applies to most. And I would just  
23 simply want to confirm your query to give you a definitive  
24 answer. But the redress models certainly specify and allow  
25 for one to conclude when the trend ratio is applied or not.

1     **Q.**   And there's a pretty simple way to do this by looking  
2     at the redress model, right, because there will be some sort  
3     of scaling down in any of the populations that are subject  
4     to the trend ratio; correct?

5     **A.**   Yeah, yeah. And just at the risk of stating what may  
6     be clearer, the intuition is that one doesn't need to invest  
7     the same in year one as year 15, and that as the problem  
8     gets better, the investments that are going to be required  
9     are going to be less. They're going to decline over time.

10           So when I spoke this morning about building up a  
11     scaffolding and then taking it down, this is sort of another  
12     way of describing the application of the trend ratio.

13     **Q.**   But as I read this off, you don't have any reason to  
14     disagree, do you, with my point that most of your categories  
15     in your plan are going to be subject to the trend ratio?

16     **A.**   I believe that's right. I carefully reviewed the  
17     different categories, and there were some instances where I  
18     felt that there should be a continuous allocation of  
19     resources over the 15 years. But I believe in most cases I  
20     felt that, that the intensity of the intervention should be  
21     greater at first and then scaled down as morbidity and  
22     mortality from the epidemic recedes.

23     **Q.**   And just to be clear again, it's pretty easy to tell  
24     because you can see in different populations that they're  
25     following this same scaling down pattern. You can tell from

1 the different populations. Correct?

2 **A.** Yes, correct.

3 **Q.** Dr. Alexander, you've provided expert reports with  
4 abatement models in at least three other opioid cases; is  
5 that correct?

6 **A.** I, I believe that's correct. I don't know the precise  
7 number, but I believe earlier this morning I shared the  
8 cases that I had been involved with.

9 **Q.** And you submitted a report in the Ohio case. I believe  
10 you may have referred to that as Track 1. And you submitted  
11 that in March, 2019. Does that sound right?

12 **A.** I do -- I'm sure that I submitted a report in Track 1.  
13 I don't remember the month or, frankly, the year at this  
14 point.

15 **Q.** Do you recall it was before you submitted your report  
16 in this case?

17 **A.** Yes.

18 **Q.** So, Dr. Alexander, let me just write up here "Ohio."  
19 And when you submitted your report in Ohio, you used  
20 something called a Markov model to determine the changes in  
21 the OUD population over time, right, to develop your trend  
22 ratio?

23 **A.** I believe that I used a national model not dissimilar  
24 from the model that we discussed this morning, an  
25 epidemiologic model of the opioid epidemic, Apollo.

1 Q. And Apollo is, is a model that you and your firm have  
2 developed; correct?

3 A. Yes.

4 Q. And, and your recollection is you used the Apollo model  
5 in Ohio; correct?

6 A. I believe I used a version of Apollo. I think we might  
7 refer to it as U.S. Apollo.

8 Q. And Apollo is a Markov model that your firm has  
9 developed to simulate the future development of an OUD  
10 population and other factors based on assumptions that you  
11 build into your model; correct?

12 A. Yes. We -- I've developed it with colleagues in order  
13 to be able to understand more about the future course of the  
14 opioid epidemic.

15 Q. And this model was developed by your firm; correct?

16 A. Well, it included -- I mean, it, it was developed by a  
17 large number of people, and not all of them are direct  
18 employees of my firm. But, but it was -- but much of the  
19 effort was through Monument Analytics, yes.

20 Q. And Monument Analytics is the firm that you co-founded  
21 and you own; correct?

22 A. Correct.

23 Q. And you used, you used this Apollo model in Ohio  
24 because you felt it would give you the best answers to the  
25 questions that you were posing about trend ratios and other

1 future developments; correct?

2 **A.** I mean, this was two or more years ago and I don't  
3 recall all of the thinking about this. What I, what I  
4 recall most clearly is that I had been engaged with  
5 plaintiffs and was asked whether I could assist with trying  
6 to understand future needs and -- of the opioid -- with  
7 respect to these communities. And I think based on that, I  
8 tried to apply incites from U.S. Apollo.

9 **Q.** And the model -- this Apollo model involves a series of  
10 formulas that project future OUD levels based on a number of  
11 inputs that you provide; correct?

12 **A.** Yes.

13 **Q.** And it involves dozens of variables and many dozens of  
14 inputs; correct?

15 **A.** Yes, although they're not all of equal importance. I  
16 mean, some variables are highly influential and others are  
17 not. So it's not as if it's a, you know, complete -- but,  
18 yes, it does involve many, many parameters.

19 **Q.** And, and you also test your Apollo model with  
20 sensitivity analyses to ensure that the model is robust and  
21 accurately predicting what you want to predict; correct?

22 **A.** There are standards steps that represent best practice  
23 and sort of state-of-the-art, state-of-the-science in  
24 developing these models. And one of them includes comparing  
25 the model performance to actual reality. We call that

1 calibration.

2 **Q.** And, so, you did extensive calibration and testing of  
3 the model to see if it reflected the assumptions you were  
4 making; correct?

5 **A.** I -- yes, I think that's a fair statement.

6 **Q.** You also submitted a report in the Washington Attorney  
7 General litigation involving opioids; correct?

8 **A.** Yes.

9 **Q.** That was around January, 2021; correct?

10 **A.** Again, unfortunately, I don't remember the month nor  
11 the year, but it was more recently than Track 1 of the MDL.

12 **Q.** And you recall that you submitted it after you  
13 submitted your report in this case; correct?

14 **A.** I -- believe it or not, I don't recall precisely the  
15 timelines, but I take your word for it.

16 **Q.** Do you have any reason to doubt that it was after you  
17 submitted your report in this case?

18 **A.** Well, I think the dates -- I mean, the dates are on the  
19 report. So I, I -- again, I just don't recall clearly the  
20 timeline of the varied reports that I've submitted.

21 **Q.** If I, if I showed you a copy of your report, would it  
22 refresh your memory on when you submitted it?

23 **A.** Sure.

24 MR. HESTER: I don't think I need to pass out  
25 copies, Your Honor, if I can just give him this to refresh



1 his memory. May I approach?

2 THE COURT: Yes.

3 BY MR. HESTER:

4 Q. Dr. Alexander, I've handed you a copy of your  
5 Washington report. Do you recognize that?

6 A. Yes, I do.

7 Q. And when did you file that?

8 A. January 20th, 2021.

9 Q. And that was in the Washington Attorney General opioid  
10 litigation?

11 A. It was for Washington State. I, I haven't followed  
12 closely who's, you know, who's bringing the case. But it  
13 was for the Washington State case is how I think of it.

14 Q. And, and you also relied on an Apollo model there to  
15 develop your trend ratios and, and your abatement plan;  
16 correct?

17 A. I believe that I did. I believe that I did.

18 Q. And that Apollo model was comparable to the one that  
19 you had submitted in Ohio, presumably refined with the  
20 passage of time?

21 A. I, I don't know what you mean by the word "comparable."  
22 The model is continually evolving and, and it's developed in  
23 a fit-for-purpose fashion for the typical -- for the  
24 specific community.

25 So Ohio Apollo I believe was a U.S. -- I'm sorry. In

1 the Ohio case, I believe it was U.S. Apollo. So it wasn't  
2 customized to the State of Ohio or Cuyahoga County.

3 And in the Washington case, I believe that it would  
4 have been customized to the State of Washington. So I  
5 wouldn't characterize the models as comparable.

6 **Q.** So, in other words, your point is you made specific  
7 inputs to address the issues in the specific community you  
8 were looking at in Washington when you submitted that Apollo  
9 model?

10 **A.** At least some, if not dozens. I don't recall  
11 without -- again, the model has 32 compartments, I believe,  
12 over 100 different transition probabilities and parameters,  
13 you know, many, many data sources. And I don't remember the  
14 degree to which it was customized to the State of  
15 Washington.

16 **Q.** But that was what you undertook to do to develop an  
17 Apollo model that had specific inputs related to Washington?

18 **A.** In all cases, my goal in these efforts has been to  
19 develop information that allows for me to provide to the  
20 parties at, at hand the most reliable evidence-based  
21 estimates that I can about the scientific questions that  
22 have been posed.

23 **Q.** And just to be clear, in both Ohio and in Washington,  
24 you were submitting abatement reports over a 10-year,  
25 15-year period with categories that are comparable to some

1 we've discussed today; correct? Not identical, but  
2 comparable categories?

3 **A.** Can you say more about what you mean by the word  
4 "comparable"?

5 **Q.** Sure. I was trying to simplify. But you submitted,  
6 you submitted models in both Ohio and in Washington that had  
7 remedial plans looking out into the future; correct?

8 **A.** Yes, both had plans looking forward.

9 **Q.** And both had a number of categories that you identified  
10 and a number of treatment populations and other populations  
11 that would benefit from the different categories of  
12 remediation you were identifying; correct?

13 **A.** They did. I mean, the, the science doesn't change  
14 whether you're in Cincinnati or Seattle. So there's a  
15 reason why, why the abatement plans have some similarity to  
16 them.

17 **Q.** But you -- but they also had some differences. You  
18 tried to develop elements of your remediation plan that were  
19 specific to those communities?

20 **A.** Yes. They have important differences.

21 **Q.** Now, you also submitted another plan even more recently  
22 in Rhode Island; correct?

23 **A.** Yes.

24 **Q.** And, again, it's another remediation plan looking out  
25 over a 15-year period into the future; correct?

1       **A.**    I, I don't know precisely if it's 15 years, but it is a  
2       forward-looking abatement plan, yes.

3       **Q.**    And in that sense, an abatement plan like the  
4       Washington and Ohio plans that were looking ahead in a piece  
5       of opioid litigation; correct?

6       **A.**    Yes.

7       **Q.**    And, so -- and in Rhode Island is it also true you  
8       submitted an Apollo model as the basis for your trend ratio  
9       there?

10      **A.**    I believe so.

11      **Q.**    Now, so let's, let's go back now to your report in this  
12      case.

13             So you submitted your report in this case in August,  
14      2020. So it was after your Ohio report and before your  
15      Washington and Rhode Island reports; correct?

16      **A.**    Well, I believe so. I mean, it might be helpful for me  
17      at least to have the precise dates. But I'll -- again, I'll  
18      take your word for it. It sounds correct.

19      **Q.**    Would it refresh your memory on the dates if I gave you  
20      these reports?

21      **A.**    I'm, I'm happy just to proceed assuming that the report  
22      in this case was between Ohio and Washington. I see a space  
23      there.

24      **Q.**    There is a space there. You read my mind. But I  
25      wanted to confirm that you're comfortable with that. I can

1 give you the documents if you would like if that doesn't  
2 accord with your memory.

3 Does it accord with your memory that West Virginia came  
4 in after Ohio but before Washington and Rhode Island?

5 **A.** I would prefer to see the reports and the dates if  
6 that's possible.

7 **Q.** Okay, will do.

8 MR. HESTER: May I approach, Your Honor?

9 THE WITNESS: Thank you.

10 BY MR. HESTER:

11 **Q.** I'm getting you one more.

12 **A.** Thank you.

13 **Q.** So, Dr. Alexander, we've handed you these different  
14 expert reports, the ones submitted in Ohio, Washington,  
15 Rhode Island, and in this case in West Virginia.

16 Does it refresh your memory that the Washington and  
17 Rhode Island reports were served after your report in this  
18 case?

19 **A.** So Washington was January, 2021. Huntington was  
20 August, 2020. The Ohio case was definitely first. And  
21 Rhode Island is the report that you've provided me?

22 **Q.** I believe so.

23 **A.** Yeah. And this is June, 2021.

24 **Q.** Okay.

25 **A.** Okay, yes. Thank you.

1       **Q.**    So in this West Virginia litigation before this Court,  
2       if you look at your, your remedial plan, if you go to -- let  
3       me see if I can point you to the right page. I'm sorry, Dr.  
4       Alexander.

5               What I'd like to point you to is your report itself.  
6       Your report from this case is up there; correct?

7       **A.**    Yes, I believe so.

8       **Q.**    And if you look at Page 8 of the document, Paragraph  
9       18, there's a sentence that begins, "Based on the sweeping  
10      scientific support for the abatement interventions I have  
11      proposed herein, many of which have already been implemented  
12      in the Cabell/Huntington community, I believe that  
13      coordinated, all-encompassing efforts that respond to the  
14      evolving epidemic could reduce cumulative opioid overdoses  
15      and opioid-related harms by 50 percent over 15 years."

16             Do you see that?

17      **A.**    Yes, I do.

18      **Q.**    And that sentence is followed by Footnote 58. Do you  
19      see that?

20      **A.**    Yes.

21      **Q.**    And Footnote 58, if you look at that, is a citation to  
22      a paper written by Homer and Wakeland entitled "The Dynamic  
23      Model of the Opioid Epidemic with Implications for Policy."

24             Do you see that? That's the source that you cite for  
25      Footnote 58.

1       **A.**    Yes, I see that.

2       **Q.**    And if you could look at your redress model now, and if  
3       you turn into the fourth page, there's a discussion on the  
4       fourth page of the intervention population.

5             And it begins by saying, "For some categories, I  
6       applied a trend ratio that represents the expected reduction  
7       in relevant populations based on the implementation of the  
8       abatement plan I propose."

9             Do you see that sentence?

10       **A.**    Yes.

11       **Q.**    And that's what we've been talking about already,  
12       correct, that the trend ratio is the basis by which you  
13       reduce relevant populations as the abatement plan is  
14       implemented; correct?

15       **A.**    Yes.

16       **Q.**    And then you go on in the next sentence to say, "Homer,  
17       et al., modeled the expected impact of a bundle of  
18       interventions."

19             Do you see that?

20       **A.**    Yes, I do.

21       **Q.**    And you list, you list four interventions that were  
22       modeled by Homer. Do you see that?

23       **A.**    Yes, reducing prescription dosage, cutting diversion,  
24       increasing treatment, and increasing naloxone use.

25       **Q.**    And again you cite -- and you have a footnote there

1 where you refer to Homer. And, again, it's, it's the Homer  
2 and Wakeland paper that's also cited in your report; is that  
3 correct?

4 **A.** Yes.

5 **Q.** So you cite this Homer paper as the support for your  
6 conclusion that your intervention will reduce the OUD  
7 population over 15 years; correct?

8 **A.** Can you tell me again, please, in my report the  
9 paragraph that Homer's referenced?

10 **Q.** It's Paragraph 18.

11 **A.** Yes.

12 **Q.** So I've written on the board "Homer" there. In this  
13 case -- in this litigation you did not refer to an Apollo  
14 model in your report; correct?

15 **A.** I would -- I mean, there are 650 references or so in my  
16 report. I don't know what's -- if, if I referred to Apollo  
17 or not in that.

18 **Q.** Well, I'll give you the time to look. But I can tell  
19 you that it's not mentioned in the report. Does that sound  
20 correct to you?

21 **A.** Again, I would, I would want to review my report to  
22 know if it's in there or not. But, but without reviewing  
23 those references, I can't tell you for sure if it's there or  
24 not.

25 **Q.** Well, you did not build an Apollo model for this case;



1 correct?

2 **A.** Well, that's, that's true. That's definitely true.  
3 But there's a big difference between customizing a West  
4 Virginia Cabell Apollo on the one hand and referencing or  
5 using the knowledge that I have from my work modeling the  
6 opioid epidemic on the other.

7 **Q.** So let's be clear. In Ohio you submitted an Apollo  
8 model. In Washington you submitted an Apollo model. And in  
9 Rhode Island you submitted an Apollo model. Correct?

10 **A.** In Ohio I used, I believe, a U.S. model of the opioid  
11 epidemic. And in Washington and Rhode Island I believe I  
12 submitted customized models for those communities. And I  
13 also have been involved in litigation where I didn't use  
14 Apollo models.

15 So there's, there's nothing constant about my use or  
16 non-use of an Apollo model. And I also use the information  
17 that I have from my work with Apollo whether or not I'm  
18 actually -- whether or not I'm actually building a  
19 customized model for a specific community.

20 **Q.** But you did not build a customized model for  
21 Cabell/Huntington; correct?

22 **A.** I -- that's correct, not as part of this case. I may  
23 well have done some modeling with my team, but I did not  
24 submit a, a Cabell Apollo as part of my submitted materials.

25 **Q.** So if we could go back to the, to the discussion at

1 page -- at the fourth page of your redress model, the  
2 intervention population. I wanted to point you again -- you  
3 have a single sentence that describes the Homer findings,  
4 correct, where you say, "Homer, et al., modeled the expected  
5 impact of a bundle of interventions to mitigate the opioid  
6 epidemic and estimated a reduction of approximately  
7 24 percent in the number of individuals with opioid use  
8 disorder, 4 percent in the number of opioid overdoses, and  
9 18 percent in opioid overdose deaths over a period of 10  
10 years."

11 Do you see that?

12 **A.** Yes, I do.

13 **Q.** And that's the only sentence where you discuss the  
14 Homer findings; correct?

15 **A.** Well, I -- you know, again, my report is, I don't know,  
16 125 pages or something. I don't know if there's other  
17 sentences where I discuss the Homer findings.

18 **Q.** I can represent to you that it's not discussed anywhere  
19 else. Does that sound correct to you?

20 **A.** I think I'm willing to take your word for it, yes.

21 **Q.** So I'm going to write on the board here -- sorry, I'm  
22 slow with my writing.

23 When you submitted Apollo models -- for instance, when  
24 you submitted an Apollo model in Washington or an Apollo  
25 model in Rhode Island, you provided an extensive discussion

1 of the, of the model; correct?

2 **A.** Yes. I mean, the model is -- I'm not sure how  
3 extensively -- I mean, at a minimum I would have described  
4 the rationale for the model and how to interpret it. And  
5 then the model also has a technical appendix.

6 **Q.** So, so a technical appendix to describe the elements of  
7 the model, all of the inputs that you put into those  
8 specific Apollo models; correct?

9 **A.** Yes.

10 **Q.** Now, as we've just discussed, the Homer paper model,  
11 the 24 percent reduction in OUD over 10 years; correct?

12 **A.** Yes, based on the assumptions that they made and the  
13 10-year period from 2020 to 2030, so much smaller than the  
14 estimate that I suggest.

15 **Q.** And, so, you didn't just adopt those Homer inputs as  
16 we've been discussing today. You, you concluded a  
17 50 percent reduction over 15 years as compared to a  
18 24 percent reduction over 10; correct?

19 **A.** Well, it would have been inappropriate for me just to  
20 adopt these statistics. As I discussed this morning, you  
21 know, the interpretation of data has to be informed by the  
22 context in which the data is derived, the methodologies  
23 used, and the like. So I did not just directly adopt and  
24 paste in the statistics from the Homer paper.

25 **Q.** And, in particular, if we look again at Page 4 of your

1 redress model, you say, "Given that I propose more  
2 comprehensive and coordinated interventions, I project they  
3 will reduce the number of individuals with OUD by 50 percent  
4 over 15 years and I scale select populations accordingly."

5 Do you see that?

6 **A.** Well, I do. And I guess if I were writing this today,  
7 I might expand further on the, you know, the rationale for  
8 the estimate that I provide.

9 But the estimate that I provide is supported by a lot  
10 of different modeling and assessment of the impact of  
11 different interventions that have been undertaken to address  
12 the opioid epidemic.

13 **Q.** Well, let's just parse this sentence first where you  
14 say, "Given that I propose more comprehensive and  
15 coordinated interventions."

16 You're referring there to more comprehensive and  
17 coordinated interventions than Homer had modeled; correct?

18 **A.** Yes.

19 **Q.** And that is the only explanation you provide in your  
20 report for modifying Homer's conclusion, right, that one  
21 sentence?

22 **A.** I, I use Homer as, as a reference to support prior work  
23 that has attempted to estimate the impact of interventions  
24 to abate the opioid epidemic.

25 There are other -- there are other models, many other

1 models that have been developed and that have been used to  
2 estimate the impact of different abatement interventions, as  
3 well as many studies, many of which I referenced in my  
4 report.

5 So the Homer study is not the totality of scientific  
6 information that I use in order to arrive at the estimate  
7 that I do, which is that with implementation of these  
8 measures, we can reduce morbidity and mortality by  
9 50 percent over 15 years.

10 **Q.** The Homer study is the only one you cite in this  
11 report; correct?

12 **A.** No, I cite many other reports that are relevant to that  
13 estimate.

14 **Q.** The Homer model is the only systems model you cite;  
15 correct?

16 MR. ACKERMAN: Objection, asked and answered.

17 THE COURT: Overruled. I don't think he's  
18 answered the specific question, has he, Mr. Hester?

19 MR. HESTER: I don't think he has.

20 THE COURT: Okay.

21 THE WITNESS: I would need to look at the  
22 references to see if there are other systems models or  
23 Markov models.

24 BY MR. HESTER:

25 **Q.** In this place in your redress model, Homer is the

1       only one you cite; correct?

2       **A.**    Yes, that's correct.

3       **Q.**    And, and then as we've just discussed, there's one  
4       sentence where you describe how you modify the Homer  
5       findings.  There's no other sentence.

6       **A.**    Again, you know, I would want to review the entirety of  
7       my report to be sure that that's the case.  But, but I don't  
8       have a reason sitting here to be confident that it's  
9       otherwise.

10      **Q.**    So I've written on the board "one sentence modified."

11               MR. ACKERMAN:  Your Honor, I'd object to that.  I  
12      think the witness has testified that his report cited other  
13      models.  I think that misrepresents the witness's testimony.

14               MR. HESTER:  Your Honor, there's one -- I'm  
15      putting the witness's redress model in front of him.  
16      There's one sentence that's --

17               THE COURT:  Well, he said he had no reason to  
18      doubt what you said or words to that effect.  So I'll let  
19      him go ahead.  Overruled.

20      BY MR. HESTER:

21      **Q.**    So, Dr. Alexander, we've discussed before that the  
22      Homer, the Homer estimate was for a 24 percent reduction  
23      in OUD level; correct?

24      **A.**    Yes, far less than the estimate that I suggest.

25      **Q.**    And the Homer estimate -- the Homer model was also

1 based on a 10-year period, not a 15-year period; correct?

2 **A.** Yes. And there may have been many other features of  
3 the Homer model that I don't have -- I don't recall that  
4 would be relevant to interpreting these statistics.

5 **Q.** The Homer model is not your model. It's not the Apollo  
6 model. Correct?

7 **A.** Correct.

8 **Q.** And, so, you didn't test the Homer model based on the  
9 additional assumptions and interventions that you're  
10 proposing here; correct?

11 **A.** I, I didn't have the Homer model in hand, if that's  
12 what you're talking about, and modify it. You know, there  
13 are -- there is good evidence and it is relatively  
14 straightforward to model some interventions.

15 For many other interventions, there's qualitative  
16 evidence and clear and convincing evidence of benefit. But  
17 it is another step entirely to derive the specific parameter  
18 and plug it in. It's not just like plug-and-play I guess is  
19 my point.

20 **Q.** Again, I'm probably stating a truism, but let's see if  
21 we communicate on this.

22 The Homer model is not your model. You didn't have  
23 access to it to test it. So you couldn't test the  
24 additional interventions to see how they worked under the  
25 Homer model?

1     **A.**    Right.  I, I didn't use the Homer model and modify it  
2     and try to identify inputs for each of the 15 or 20  
3     different abatement categories, nor have I done that,  
4     frankly, with Apollo.

5     **Q.**    So I'm going to write "did not test."  So, so the Homer  
6     paper was written by Jack Homer and Wayne Wakefield [sic].  
7     Do you see that?

8     **A.**    Yes.

9     **Q.**    And let me actually -- I think I'll give you a copy of  
10    the Homer paper.  That will be easier for us to talk about.

11           MR. HESTER:  May I approach, Your Honor?

12    BY MR. HESTER:

13    **Q.**    And, Dr. Alexander, we've handed you what's been  
14    marked as MC-WV-2234.  Is this the Homer and Wakeland  
15    paper that you cite in your report?

16    **A.**    Yes.

17    **Q.**    And you see that Mr. Homer is listed -- if you look at  
18    the second page, he's listed as being associated with Homer  
19    Consulting; is that right?

20    **A.**    I'm sorry.  What's on the second page?

21    **Q.**    I could be leading you astray.  I guess on the first  
22    page -- do you see where it says -- right under the heading  
23    it's entitled "A Dynamic Model of the Opioid Drug Epidemic  
24    with Implications for Policy."

25           And then there's a footnote right under the name of



1 Jack Homer and it says "Homer Consulting, Barrytown, New  
2 York."

3 Do you see that?

4 **A.** Yes, I do.

5 **Q.** Are you familiar with Homer Consulting?

6 **A.** No, I'm not.

7 **Q.** Are you aware that it's a sole proprietorship of Jack  
8 Homer?

9 **A.** No, I am not.

10 **Q.** Do you know that Mr. Homer is not an epidemiologist?

11 **A.** No, I'm not aware -- I mean, as I sit here today, I'm  
12 not aware of whether he is or is not. You know, at the time  
13 that I reviewed this paper, and it has been a while since  
14 I've looked at it, you know, I typically do consider the  
15 background and training of authors, as well as many other  
16 factors, in interpreting scientific reports, including the  
17 journal that the paper is in, the authorship team, prior  
18 publications that they have had, and so on and so forth.

19 **Q.** Do you know who Jack Homer is?

20 **A.** No, I do not.

21 **Q.** So let's look at who funded this paper, if you could  
22 turn to the financial disclosure and funding source, which  
23 is on the last page of text.

24 And it says here, "The initial version of the model  
25 described in this paper was developed under a contract

1 funded by Herc Litigation Services LLC and the law firms of  
2 Levin Papantonio and Baron & Budd."

3 Do you see that?

4 **A.** Yes, I do.

5 **Q.** And it states that consulting fees were paid to the  
6 authors. Do you see that?

7 **A.** Yes.

8 **Q.** Were you aware that consulting fees were paid to the  
9 authors by the law firms of Levin Papantonio and Baron &  
10 Budd?

11 **A.** I don't -- as I sit here today, I don't remember what I  
12 was aware of when I reviewed this. But I typically do  
13 review and do consider the funding sources of, of research  
14 that I examine just as I consider many other factors in  
15 interpreting the, the adequacy of the work.

16 The one other thing I'd just like to point out is that  
17 while this may have been the paper that I cited to support  
18 the estimates that I made, my estimates and my  
19 recommendations for the community are also informed by the  
20 totality of my professional experience, which includes  
21 review of and involvement in and consideration of any number  
22 of other models and estimates of impacts, including many,  
23 many peer-reviewed manuscripts that may not be actual models  
24 of the epidemic but, nevertheless, are cited as part of the  
25 650 odd references that I include in my report.

1       **Q.**    Are you aware that the first law firm listed here as  
2       funding this paper, Levin Papantonio, represents the  
3       plaintiff, the City of Huntington in this case?

4       **A.**    As I sit here today, I'm not aware of that.  Again, I  
5       don't know -- I don't recall what I was aware of or how  
6       extensively I investigated the relationships of varied  
7       parties when I used this and referenced it in my report.

8       **Q.**    Are you aware that the second law firm listed as  
9       funding this paper, Baron & Budd, represents the plaintiff,  
10      the Cabell County Commission in this case?

11      **A.**    Again, I mean, my work is focused on the science --

12      **Q.**    Let me ask you to answer the question.

13      **A.**    What --

14               MR. ACKERMAN:  Objection, Your Honor.  I'd ask  
15      that the witness be allowed to answer.  He was interrupted.

16               MR. HESTER:  He wasn't answering my question.

17               THE COURT:  Yeah.  Answer the question if you can,  
18      Dr. Alexander.

19               THE WITNESS:  Of course.  I wasn't aware.  My  
20      focus is on the science.  But, generally, when I review  
21      manuscripts, I do pay attention to the funding sources as I  
22      interpret the information.

23      BY MR. HESTER:

24      **Q.**    Well, Dr. Alexander, let me ask again.  Are you  
25      aware that the second law firm listed as funding this

1 paper, Baron & Budd, represents the plaintiff, the  
2 Cabell County Commission in this case?

3 MR. ACKERMAN: Objection, asked and answered.

4 MR. HESTER: He hasn't answered yet.

5 MR. ACKERMAN: He said, "I wasn't aware."

6 THE COURT: Overruled.

7 THE WITNESS: As I said, at this point, today I, I  
8 don't recall what I was aware of when I used this paper in  
9 my report. I'm not -- today I'm not aware of the, the  
10 funding relationships of varied law firms and the parties.

11 BY MR. HESTER:

12 Q. But are you aware that the second law firm listed  
13 as funding this paper, Baron & Budd, represents the  
14 plaintiff, the City -- the Cabell County Commission in  
15 this case? Are you aware of that?

16 MR. ACKERMAN: Objection, asked and answered.

17 THE COURT: Overruled. I don't think he answered  
18 it. That's a "yes" or "no" question.

19 THE WITNESS: Well, I, I am also just trying to  
20 underscore my approach to interpreting scientific  
21 information, but I'm not aware of those funding  
22 relationships.

23 BY MR. HESTER:

24 Q. Did you know that Jack Homer listed this paper on  
25 his website as a client project to assess economic

1 damages from the opioid epidemic for two plaintiff law  
2 firms involved in national litigation against opioid  
3 manufacturers and distributors? Are you aware that he  
4 listed that on his website as a client project for two  
5 plaintiff law firms?

6 **A.** I'm not aware of that.

7 **Q.** Let me ask to put up on the board --

8 MR. HESTER: May I approach, Your Honor?

9 MR. ACKERMAN: Your Honor, we have an objection to  
10 the use of this document which isn't marked in any way,  
11 didn't appear on an exhibit list, and was never disclosed.  
12 It's a violation of the exhibit stipulation.

13 MR. HESTER: It's pure impeachment, Your Honor. I  
14 view it as pure impeachment. He said he wasn't aware of  
15 this.

16 THE COURT: Well, if it's pure impeachment, I'll  
17 allow it. Go ahead.

18 MR. HESTER: May I approach, Your Honor?

19 THE COURT: If it's a good faith basis to ask him  
20 questions designed to impeach his testimony he's given here  
21 today, I'll let you do it.

22 MR. HESTER: Yes.

23 BY MR. HESTER:

24 **Q.** Dr. Alexander, let me ask you to look at Page 13 of  
25 this document, please.

1           What we've handed you is a screen shot of the Jack  
2           Homer Consulting website. And there's a heading "For  
3           Corporate Clients."

4           Do you see that?

5           It says, "Assessing economic damages from the opioid  
6           epidemic."

7           Do you see that?

8           **A.** Yes, I do.

9           **Q.** And it says, "Client: Two plaintiff law firms involved  
10          in national litigation against opioid manufacturers and  
11          distributors." And then it lists the name of the  
12          publication that's cited in your report.

13          Do you see that?

14          **A.** Yes.

15          **Q.** And were you aware that Jack Homer had listed this  
16          paper as client project for two plaintiff law firms?

17          **A.** Again, I don't recall at the time that I was working  
18          closely with this paper and others to what degree I pursued  
19          these types of relationships.

20          But I customarily, when I'm reviewing a peer-reviewed  
21          manuscript, pay attention to many different things. And  
22          some of the most important are who's publishing it, where is  
23          it published, how adequate do I believe the peer-review is,  
24          and what are the funding sources. Those aren't the only  
25          four, but those are the big four.

1           So I believe that at the time that I reviewed this, I  
2           may well have been aware of some degree of the funding, but  
3           I don't recall if I, you know, if I examined this website in  
4           particular.

5           **Q.**   And, so, in particular, you were not aware that Jack  
6           Homer listed this as a client project for two plaintiff law  
7           firms?

8           **A.**   Again, I don't recall how extensively I examined this  
9           when I used the paper. I think it's unlikely that I would  
10          have, you know, reviewed an author's website to examine at  
11          this level of detail. So my guess is that I was not aware  
12          of it, but I don't recall for sure.

13          **Q.**   I've written on the board "prepared for two plaintiffs'  
14          law firms."

15          Dr. Alexander, I have no further questions. Thank you.

16          **A.**   Okay. Thank you.

17                   THE COURT: Ms. Hardin.

18                   MS. HARDIN: I have no questions, Your Honor.

19                   THE COURT: Is there any redirect, Ms. Singer?

20                   MS. SINGER: Yes, there's probably going to be  
21          about 20 minutes, 15 minutes, Your Honor. And I know we  
22          will have to have Dr. Alexander back likely tomorrow on the  
23          evidentiary issue or have him hold over.

24                   I'm happy to print out the questions and get started.  
25          I probably need about three minutes to do that with the

1 Court's permission, or tomorrow morning as Your Honor  
2 prefers.

3 THE COURT: Well, if you say 20 minutes, that's  
4 probably going to be an hour; right?

5 MS. SINGER: No, that's Mr. Hester's time, Your  
6 Honor. I stick to mine.

7 MR. HESTER: I did pretty well today, Your Honor.

8 THE COURT: Well, you did better.

9 MR. HESTER: I did better.

10 THE COURT: My suggestion is -- it's almost --  
11 it's almost 10 till the bewitching hour. Why don't we pull  
12 the plug on this and come back and you can finish tomorrow.

13 Is that all right with you, Mr. Hester?

14 MR. HESTER: That's fine by me, Your Honor.

15 As a matter of housekeeping, we'd like to mark this  
16 board as a demonstrative exhibit. I think it's Exhibit 10  
17 demonstrative.

18 THE COURT: All right. You may do so.

19 All right, I'll see everybody at 9:00 in the morning.

20 Can you come back, Dr. Alexander?

21 THE WITNESS: Of course, of course.

22 THE COURT: Thank you very much.

23 (Trial recessed at 4:47 p.m.)  
24  
25



## 1 CERTIFICATION:

2 I, Ayme A. Cochran, Official Court  
3 Reporter, and I, Lisa A. Cook, Official Court Reporter,  
4 certify that the foregoing is a correct transcript from  
5 the record of proceedings in the matter of The City of  
6 Huntington, et al., Plaintiffs vs. AmerisourceBergen  
7 Drug Corporation, et al., Defendants, Civil Action No.  
8 3:17-cv-01362 and Civil Action No. 3:17-cv-01665, as  
9 reported on June 28, 2021.

10  
11 S\Ayme A. Cochran

12 Reporter

13 s\Lisa A. Cook

14 Reporter

15 —

16 June 28, 202117 Date  
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Ayme A. Cochran, RMR, CRR (304) 347-3128

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